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JOURNAL
OF THE
AMERICAN PHARMACEUTICAL ASSOCIATION

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THE SIXTY-NINTH ANNUAL CONVENTION OF THE AMERICAN PHARMACEUTICAL ASSOCIATION WILL BE HELD IN NEW ORLEANS, LA., SEPTEMBER, 1921

The 1921 meetings of the American Conference of Pharmaceutical Faculties and the National Association of Boards of Pharmacy will also be held in New Orleans during Convention Week

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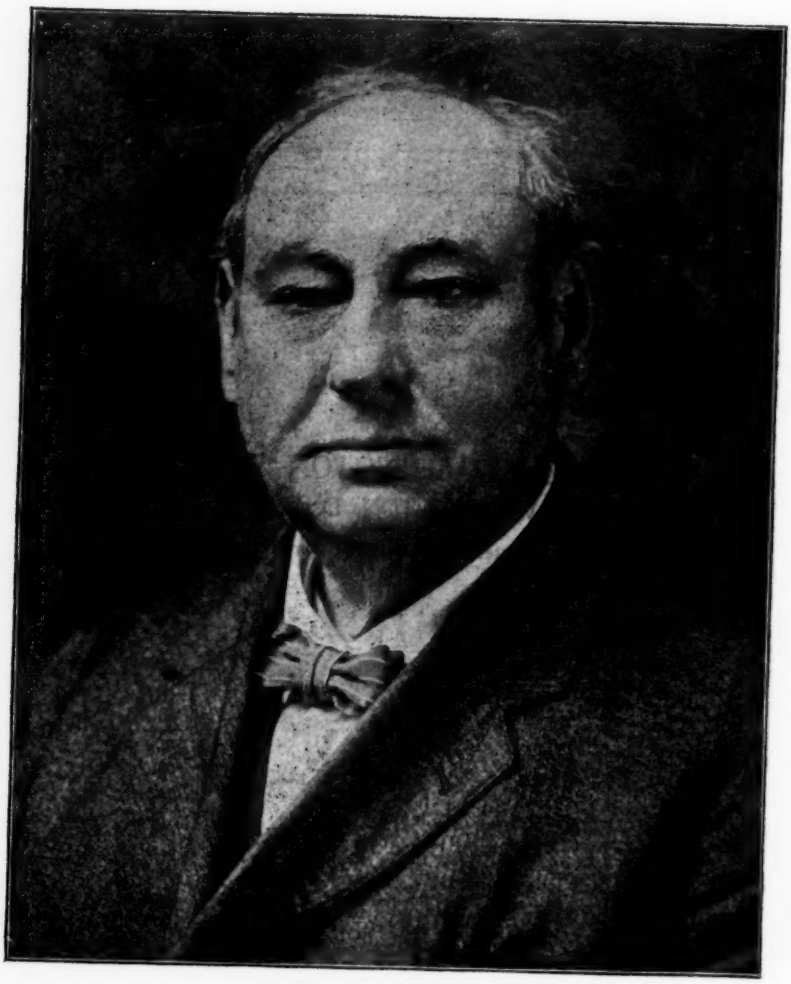
HARVEY WASHINGTON WILEY

WASHINGTON, D. C.

President United States Pharmacopoeial Convention 1910–1920



HARVEY W. WILEY

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. IX MAY 1920 NO. 5

HARVEY W. WILEY.

A man of commanding personality, a big man, physically and mentally, Dr. Harvey W. Wiley, the President of the United States Pharmacopoeial Convention, commands the admiration of his friends and the respect of his enemies.

It is doubtful whether any occupant of an important public office ever stirred up such intense feeling upon questions in which patriotism played no part whatever, and in which partizanship ran high in connection with scientific controversies ordinarily not interesting to the public, as did Dr. Wiley while he was Chief of the Bureau of Chemistry of the U. S. Department of Agriculture.

"We love him for the enemies he has made," was the slogan of one of his enthusiastic nominators at the 1910 Convention, and he was swept into the presidency of the Convention almost like a whirlwind.

Neither a practicing physician nor a pharmacist, Dr. Wiley's suitability for the position was conceded from the fact that under the Food and Drugs Act of 1906, the U. S. Pharmacopoeia had suddenly become a most important book of standards, especially in the U. S. Department of Agriculture, in which he was at that time Chief of the Bureau of Chemistry.

Dr. Harvey W. Wiley is a Hoosier, having been born at Kent, Indiana, in 1844. He was educated at Hanover, Indiana, Indiana Medical College and Harvard. To enumerate the list of his honorary degrees and awards of medals and decorations for distinguished services in his profession, and to give a list of the scientific societies in which he has held office and retains membership, would unduly increase the size of such a brief biographical sketch as this is intended to be.

Dr. Wiley severed his connection with the Bureau of Chemistry in 1912, after a service of nearly 30 years. Since that time he has held an important place in the counsels of the public regarding food topics by being a contributing editor to the Good Housekeeping Magazine, and by the hundreds of lectures which he has given before Chautauqua and lyceum audiences in various parts of the country.

A man of great personal magnetism, a brilliant after-dinner speaker, a witty and entertaining conversationalist, Dr. Wiley is in demand as a guest, instructor and entertainer wherever he travels. His present hobby, outside of his unwavering interest in pure drugs and unadulterated foods, is the scientific raising of the two lusty boys of whom he is the proud father.

To know Dr. Wiley is a privilege. To see him in action in debate or controversy is a treat to be long remembered. To see him in such an important office as that of presiding officer of the U. S. P. Convention will add to the interest and value of the occasion and will properly distinguish the Centennial Convention of the United States Pharmacopoeia.

C. H. L.

EDITORIAL

E. G. EBERLE, Editor 253 Bourse Bldg., PHILADELPHIA

THE WASHINGTON PHARMACEUTICAL MEETINGS.

EDITORIAL comment relating to the convention of the American Pharmaceutical Association must be reserved for the June number of the JOURNAL; however, the comprehensive address of President Lucius E. Sayre, in which he discusses many of the problems and matters which were then considered, is printed in this issue.

In the preparation of his address President Sayre has drawn upon the experiences of many years of his activities—as a member of the Association, in which he has always exhibited a deep interest—that have given him a knowledge of his fellow-workers, their aims and ideals. It is also evident that he knows the needs and hopes of pharmacy and is well informed relative to conditions in its practice. Thoughts of coöperation follow the analyses of important questions; a spirit of helpfulness has shaped the presidential message, which will be read with interest and profit. At this writing the address has not received the consideration of the Association and, therefore, further comment is deferred.

To say that there is necessity for a broadened vision and foresight, for thinking in terms that bespeak progress, does not detract from the importance placed on the work accomplished by the American Pharmaceutical Association, the realization of its significant influence in shaping pharmacy, nor appreciation of the valuable services rendered by the members. Real progress never jumps.

Revision of the code of ethics and of nomination methods are under consideration by the Association, also of organization plans, of increasing the membership and income, and of developing its publications for more extended usefulness. All of these propositions constitute weighty problems, deserving of deep reflection. The American Pharmaceutical Association cannot afford to act hastily; it is always building for the future, and its influence pervades every pharmaceutical and medical activity. Its problems are as varied as the interests represented in the Association are complex; what may appeal as essential and necessary to some is regarded as an assumption by others, and the importance of certain methods is differently evaluated by the constituency. Though this has always been the case, the good judgment of the members and the wisdom of their actions have sustained the Association throughout its many years of useful service and won the approbation and regard of related organizations.

Thinking backward and looking forward brings to mind many who have honored pharmacy and rendered invaluable service, and also a number of active organizations that had their inception in the American Pharmaceutical Association and are now engaged in related and coördinated efforts—records which stim-

ulate and encourage pharmaceutical promotions. Few, if any, organizations can point to so many members who have been disinterestedly devoted to associated service.

The JOURNAL has made progress; notwithstanding the fact that conditions in publicational lines have been trying, the increased income has largely offset the higher costs of production. At the New York meeting a number of valuable suggestions were made for the development of the JOURNAL'S usefulness; among them, an extension of the editorial notes, personal and news items; the inclusion of a bibliography of pharmaceutical research, conducted by the Reporter on the Progress of Pharmacy; and, more recently, the Department of Commercial Interests, in charge of Dr. Robert P. Fischelis. While some work has been done for those directly interested in the War Veterans' Section, much more is contemplated and will soon be made effective. The thought which actuated Frank H. Freericks has borne fruit; through the effective work of the officers of the Section aided by the A. Ph. A. Branches, state membership committees, the pharmaceutical press and other coöperators, 2,000 names have been added to the roll of membership, many of whom will doubtless permanently affiliate with the Association. It may also be said that the Association was 100 percent perfect in finding employment for ex-service men, of the drug trade and pharmacy, while others have been aided in making selections in their purchase of stores or in forming partnerships.

So many suggestions and papers on Pharmacopoeial Revision have been printed in the JOURNAL that further comment on its coöperation in that connection seems unnecessary. The conclusions of the U. S P. Convention will be awaited with interest, and the JOURNAL hopes to be helpful in this important undertaking. The same thought applies to the National Formulary; the Committee for its revision is organized, and some preliminary work has been done. Further progress is anticipated in completing the book of Unofficial Formulas. Both of the latter are prepared by the American Pharmaceutical Association, hence the services of the JOURNAL is theirs to command. Conjointly with related organizations the Association has a part in the revision of the Pharmaceutical Syllabus; responsive thereto publicity has been given in the JOURNAL to the edition now nearing completion. Other comment concerning future promotions of the JOURNAL'S activities for the Association and pharmacy are presented in the reports of the Publication Committee and that of the editor.

Progress toward better recognition of pharmacists in the Government service has been made, and conferences between the Surgeon Generals, the A. Ph. A. Committee and the National Pharmaceutical Service Association give promise of a better understanding of the correlation of pharmacists in the Army, and reasonable assurances of the passage of the Darrow Bill.

Meetings of the American Conference of Pharmaceutical Faculties and the

National Association of Boards of Pharmacy were held during Convention week. This reference must be based on what these two organizations have done in the past. One of the principal aims of both bodies is to improve educational requirements in pharmacy. Their efforts have shaped legislation; high school education is an essential demanded of the students for entrance to all recognized schools of pharmacy, and a large percentage of them exact high school graduation; boards of pharmacy prescribe like qualifications of candidates for examination, and are contemplating a general enforcement of pharmaceutical college education as a prerequisite. Very naturally there is some diversity of opinion among the members of both organizations relative to methods and exactions that should govern in advancing the standards of pharmaceutical education and training. Progress has been made, not in spite of these differences but because of sincere differences in opinion; realism and the present status of pharmacy and the drug business should continue to have due consideration in laying plans for the future. Unquestionably dissatisfaction should obtain with some conditions in pharmacy, but the dissatisfaction should be prompted by the right spirit. Much has been done; there are greater possibilities ahead. E. G. E.

THE FUTURE OF ALCOHOLIC MEDICINALS.

The concluding paragraphs of the report of the Committee on Alcoholic Medicinals of the American Drug Manufacturers' Association, presented at their recent meeting in New York, read in part as follows:

"The members of this association are not unprepared for restrictions placed upon the manufacture of medicinal preparations by the operation of Prohibition Laws. This subject was discussed at the very organization of the association in 1912 and our proceedings show that it has received attention at various subsequent meetings and particularly at that of a year ago. Nevertheless new conditions are confronting us and it is the hope of the committee that discussions at the coming meeting of the association will take serious thought of the effect upon our industries of new conditions under which we must operate. Already the process of elimination of even preparations official in the U. S. P. and N. F. has begun, against the protest of many who are interested in professional pharmacy. It is true that the preparations affected, with several exceptions, may be spared without very serious injury to pharmacy or the public; but it is possible that other official preparations may be added to the list which are classified as intoxicating liquors. Attention should not be wholly centered upon official preparations, but thought should be given to the status of non-official preparations which are being listed by all manufacturers and which have been sold by them without question for so many years that a continuance of this practice is likely to be taken for granted. In the opinion of the Committee, this association should take the initiative in carefully scrutinizing the formulae of alcoholic medicinal preparations, now marketed for strictly legitimate purposes, to discover whether any of these may be perverted to improper use. Also it is not sufficient to know that these preparations have not been made or marketed for such use. The demand from the trade should be given consideration and orders for unusual quantities under suspicious circumstances should be refused.

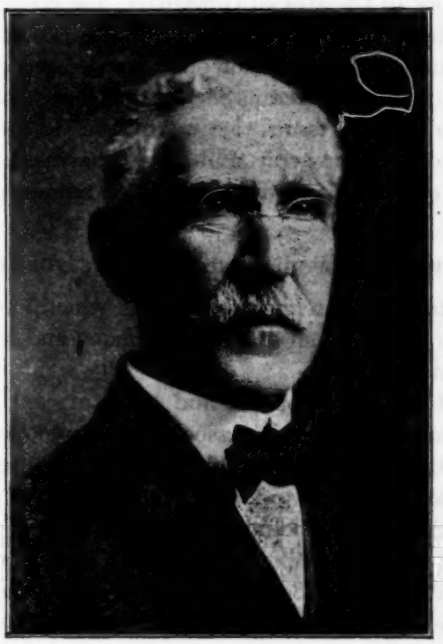
* * *

"At this time the Committee wishes to recommend the desirability of some action by the association through the appointment of a committee, or otherwise, to further the approval of a number of formulae for specially denatured alcohol for the manufacture of pharmaceutical products for internal use, as is now permitted in the case of Tincture of Iodine."

PRESIDENTIAL ADDRESS OF L. E. SAYRE, PRESIDENT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 1919–1920.

Fellow Members of the American Pharmaceutical Association, Ladies and Gentlemen, Friends of the Association:

It is fitting that I should, at the opening of this Convention, make recognition of and express, as your spokesman, our appreciation of the privilege we have in assembling in this famous central city of our great Nation. Although we have here convened as members of a special vocation and profession, we are not unmindful of our intimate relation to this Mecca of our American Commonwealth. As American citizens the passion is irresistible to pay tribute to this center as the emblem of our Nation's unity of purpose, where our interests have been focused especially in recent years. It seems fitting that we should in this place proudly recall the magnificent achievements accomplished for humanity during the trying days of a mighty world conflict—though it cost a soul-wrecking conflict, a conflict which was one of compulsion, seemingly laid upon humanity by some unseen maniacal hand; a conflict which calls to mind the bravery and sacrifice of our young men who now really live in a higher sense than we who remain to bow our heads in grief and in humble recognition of their service. It is fitting that we, in recognition of this patriotic sacrifice and at this seat of our national administration—this center which is a part of us all and in which we have a feeling of joint ownership—express that which loyalty instinctively calls upon us to do, a re-dedication of our patriotism.



L. E. SAYRE

It is also fitting that I should recognize the importance and significance of the coming convention for the revision of the United States Pharmacopoeia, which, with us, will celebrate its Centenary. As our minds shall unconsciously be drawn to the history of the past we shall doubtless recall in grateful remembrance those Nestors of American Pharmacy now passed away, whom we hold in sacred memory; those, who with lofty aim have contributed toward the progress to which we now proudly lay claim. This progress, measured by the interval of a century, seems less than it should be, it is true, but as we review this interval in retrospect we realize that it has been made in spite of much error, opposition and stumbling in the dark. We have, however, in a great measure profited by these; they have helped to clear our vision; in spite of them our ideals, toward which we strive, are none the less intact and they still stimulate us to further persistent activity.

WAR VETERANS.

The World War has come to a close and, as our Association looks back over the achievements of its members, it cannot refrain from a thrill of enthusiasm and thankfulness for the splendid service of our young men. It is no idle thing to say that Pharmacy has played its part nobly and well in the terrible struggle which was waged for humanity. The World War Veterans' Section of the Association, created at the last convention, has been earnestly at work during the past year to express in some manner to those who entered the service the appreciation which every pharmacist feels and the recognition which is due them. It is with much pride and pleasure that we extend to these men, who have come back, complimentary membership. I am sure that the members of the Association appreciate the excellent work of the special committee, the coöperation of the state associations, and also heartily approve the necessary expenditure in financing the project to bring about the affiliation of our returned soldier and sailor pharmacists. The report of this War Veterans Section will be one in which we shall take an interest. In behalf of the Association, permit me to extend a hearty welcome to membership to those of our army and navy pharmacists who have accepted our invitation to join our ranks. (More than 2100 names have been added to the roll of membership.)

THE PHARMACOPOEIA AND NATIONAL FORMULARY.

I have referred to the Centenary celebration which looms large in our vision and which promises to mean much to both Pharmacy and Medicine—the Revision of the Pharmacopoeia.

The United States Pharmacopoeia and the National Formulary are official volumes to the revision of which our Association, in coöperation with Medicine, looks forward at this time with considerable thought and interest. The pharmacist has always felt that he was the custodian of remedial agents and with the physician helped to determine that which should be worthy of official recognition. And it is a deplorable fact that quite a number of the state associations are not incorporated and that their delegates cannot be admitted to the Revision Convention. State associations should see to it that they are properly qualified to be represented at these Pharmacopoeial conventions and thus occupy the position they really owe to Pharmacy.

As long as Medicine is both a science and an art, and so long as clinical therapeutics is able to produce results by the use of remedial agents whose worth cannot be demonstrated by the pharmacodynamic experiment, we will be forced to admit drugs and preparations of both classes. To do otherwise would be tantamount to destroying the work of centuries of experience and dogmatically asserting the value of scientific method which has not yet been able fully to prove itself. No one will claim that the present scope and content of the U. S. P. is perfect and beyond reproach. A certain amount of judicious "pruning" must be done with each successive revision. Even the ardent conservatists do not believe in keeping worthless material in an official volume. They do, however, most emphatically insist that until there is proof positive, not alone by the methods of experimental pharmacology, but also by the bedside experience, [illegible] is worthless, that it be recognized and standardized as are those of more evident potency.

If we should agree to limit as useful drugs and preparations those only that give visible results in the pharmacological laboratory, and recognize for standardization only these, I am convinced we should be guilty of unfair treatment to the art of medical practice.

Until Medicine and Pharmacy shall become more exact sciences than they are to-day, there will always be plenty of room for a difference of opinion as to what is valuable and what is not among the remedial agents which are now recognized; what is worthy of recognition in the United States Pharmacopoeia and National Formulary and what shall be excluded as unworthy of such recognition from these volumes. The policy of admission into these national publications has been very largely based upon what is generally accepted as remedial in character by the medical profession as a whole; not by the few, but the many, who find occasion for their use. What is thus regarded as useful by the many, it is believed, should be standardized as far as pharmaceutical and medical science may accomplish this end. It is interesting to note here how doctors disagree as to what is and what is not useful. A prominent physician made to me the significant remark: "As long as clinical data and laboratory findings are at such variance it is unwise to be opinionated on the point of drug values." It should always be borne in mind that U. S. P. and N. F. recognition does not carry with it a favorable recommendation. The U. S. P. and N. F. are not to be considered as treatises on therapeutics, but that they have the same relation to Medicine as the United States publications containing certain standards for foods have to the public. What the public uses as foods is included in the U. S. standard for them. It must be admitted that a certain kind of prestige is given to a remedial agent when it is admitted into either the U. S. P. or N. F., but if one mistakes this kind of prestige for a recommendation the fault lies with one's power of discrimination. We may incidentally remark in this connection that the teaching of experimental pharmacology in our schools of pharmacy will do much to make future pharmacists valuable contributors to the work of Pharmacopoeial revision. While, as has been said, the Pharmacopoeia is not a treatise on therapeutics nor, to my mind, should ever become one, yet a knowledge of the pharmacodynamic action of drugs will always be valuable information and will play an important part in determining the question of deletion or inclusion of any specific agent. Students in pharmacy of this generation should be able to comprehend the results of pharmacological research and be familiar with clinical findings so largely contributed by medical science.

We cannot emphasize too strongly the complementary character of Pharmacy and Medicine in modern life; the fact that the two professions, separate in one way yet united in others, must together help in solving the large problem of public health and disease. An adequate Pharmacy, to my mind, probably now visionary, comprehends a training of nothing less than pharmaceutical education complemented and rounded by large medical knowledge and information. We have within our ranks such men and we need more of them. The inclusion of the so-called laboratory medical sciences into the pharmaceutical curriculum will in the future do much to make the pharmacist and the doctor meet on equal planes and, through this, enjoy mutual respect.

Any one acquainted with the history of Medicine and Pharmacy knows that

the publications referred to have, in a great measure, kept pace with the progress of pharmaceutical and medical science, building up from very crude and unrefined material, more accurate agents through their refinement. One familiar with the history of this progress thus accomplished, as it has been, in spite of imperfect organization and coördination, must admit that these works make a remarkable showing. Looking to the future, when it is to be hoped a better organization and better coöperation will obtain, we shall make, accordingly, a greater degree of progress. The U. S. P., which this year celebrates its Centenary, stands as a monument to the combined work of physicians and pharmacists. It has the reputation of leading the pharmacopoeias of the other nations of the world. Its shortcomings have been very much discussed and undoubtedly no book of this character can ever be above criticism, and yet the fact remains that as a standard it furnishes the pharmacist, the physician and the public with an official safeguard whose value is not to be over-estimated. The Pharmacopoeia has behind it today 100 years of history. During this time it has served the public with a single interest. Its thought and content have ever been free from commercial taint and propaganda. So long as the Pharmacopoeial Convention can attain to this ideal we need have no fear of the future successful development of this national pharmaco-medical standard. The volume is the combined work of two great professions and this it should ever remain.

Much has been said of the shortcomings of the National Formulary. Permit me to say at the outset that I consider the N. F. a typical work for the pharmacist; his own and special property, and not a joint work as is the Pharmacopoeia. The committee in charge of this revision will undoubtedly profit by criticisms aimed at its improvement. There can be no gain in combating the representative pharmacists who devote their time to advance the value of this work or in fact of any official or quasi-official standard. Opposition to such standards has its root in a large measure in a clamor for commercial license to claim proprietorship—for freedom of action in exploiting remedial agents of possible proprietary character. It should be said that this is no reflection upon our representative manufacturing pharmacists for they belong to our ranks and are connected intimately and indirectly with the revision and welfare of these works and are above any motive save that of serving their profession and the public.

As before stated, we should have our students familiar with therapeutics and experimental pharmacology. These subjects should be taught in all our schools of pharmacy. We should have students of this generation able to comprehend the results of pharmacological research, with the action of remedial agents, and familiar with the clinical findings, so largely contributed by medical science. The time is now at hand when this step should be taken if pharmacists are to meet the growing demands of the profession and coöperate and contribute wisely to these publications.

As to the details of the work of revision, it might be helpful if this Association would express itself at this Convention as to the method. It has been suggested by one of our ex-presidents, whose opinion I regard very highly, that this could be accomplished better than it has been done by a more modern method; namely, by a small committee with full-paid experts rather than by voluntary contributors, who seldom achieve the best results in such activity. If full-

paid experts were employed it is claimed the cost of revision would be materially reduced. This latter consideration is not so material perhaps as the former, a method which will give the best possible results. There is much to be said in favor of this suggestion in the matter of detail, and likewise good arguments may be given for continuing the old well-tried method. I shall not presume to speak for the Association as to the superiority of either method of revision. I shall only suggest that at this annual meeting the Association should offer a contribution by arriving at a decision embodied in a resolution setting forth its attitude toward the important question as to the best method that should be adopted for the revision of the U. S. P. IX.

PROHIBITION.

Pharmacists, and revisers of our national standards for drugs, have been brought face to face with problems connected with the administration of the prohibition law. This law, aside from its strictly moral phase, is an expression of the decent element of society irrespective of party against intemperance and the saloon. One of our English writers has said that, speaking from a European point of view, one of the curious things about the adoption of prohibition in the United States, extremely characteristic of the American temperament, is the good-natured way in which it was accepted. Men who were not prohibitionists, many who had drunk all their lives and believed that liquor was necessary for their well-being, have made willing sacrifice. Whether this critic understands the American psychology or not, the liquor interests are practically out of business. This is a condition, not a theory, the public faces, whether good-naturedly or not. As to the pharmacists, they have as a class been advocates of prohibition, and they very naturally resent, after being recognized by the Government as legal custodians of medicinal alcoholic liquids (including medicinal liquors), being classified as *retail liquor dealers*. It is worthy to note in passing that the Volstead Act is a distinct recognition of the pharmacist as a proper dispenser of medicine and that the dispensing of alcoholic liquors can be controlled through the profession of Pharmacy. Since the Volstead Act recognizes the sale of distilled spirits and wines for medicinal purposes and other prescribed non-beverages and places upon the pharmacist alone the responsibility of dispensing them for medicinal use, the contention may fairly be held that, the sale of intoxicating liquors for beverage purposes being no longer lawful, to license a pharmacist as a liquor dealer as now prescribed by statute makes him appear to be a violator of the purpose and intent of the prohibitory law; this is unjust. If the Government wishes to recognize as a public need the sale of spirits and wines for medicinal purposes and places this task (and it will be a task) on the pharmacist, it should not begin by prejudicing the public against the pharmacist by designating him as a vender of the very articles, the sale of which the country has specifically chosen to prohibit.

Council letters presenting the situation indicate that a protest should be made—one that will doubtless meet the hearty approval of this Association and one that will result probably in the elimination of the objectionable title. We are told that an Act of Congress would be necessary to change the classification. Doubtless our Congressmen will appreciate the fairness and justness of this protest and it is to be hoped that our Association, at this time, will provide proper

measures, through the Council, to bring about a relief to pharmacists from the odium which this unfortunate classification brings. By headlines and articles, by what should be considered as unwarranted reflections upon the profession, sensation mongers, in exploiting their trade, are doing much to make this odium more difficult for the professional pharmacist to bear. It may be said, in this connection, that one of the prominent members of the Council believes that the pharmacist should be entirely relieved of dispensing of liquor and the Government should be asked to assume the sole responsibility of dispensing it. It is the opinion of your president that the dispensing of medicines is a duty properly belonging to the pharmacist. So long as those liquors, the sale of which has been prohibited except as medicine, are regarded as remedial agents, it would certainly be an evasion of responsibility to decline to perform this service of dispensing. If any pharmacist degrades himself and his calling by illegally dispensing these medicinal agents, he should be held responsible and prosecuted the same as if he wilfully violated the narcotic law.

As unpleasant and unfortunate as it may appear, should we not be true now to the duty placed upon us, and in the meantime may we not, by constant and persistent research, reduce the use of liquors in every way feasible and endeavor to find a proper and adequate non-habit producing substitute for them? Here is a field of investigation worthy of the coöperation of the pharmaceutical and medical professions.

JOURNAL.

One of the most serviceable publications and exceedingly helpful agencies of our Association is our JOURNAL. Whatever is done to strengthen it can in like measure be said to strengthen the organization it seeks to represent. Considerable criticism, on the whole constructive and friendly in spirit, has lately been leveled at its present scope and content. It is urged, among other things, that it has not the personal touch necessary to reach the rank and file of retail pharmacists.

It will be remembered that at the last annual meeting a special committee, to act in conjunction with the Committee on Publication, as a joint committee, was directed to be appointed by myself, to consider the suggestion proposed in reference to the JOURNAL, with power to act. The committee was appointed, and the improvements proposed, many believe, will make the JOURNAL more generally useful and attractive and result in increasing our numbers and in strengthening our permanent membership. Our Association is, in a sense, a profit-sharing institution. Our workers have an equal share in the profits and dividends, let these be stated in whatever terms we please. They cannot be stated, it is true, in any commercial terms and not wholly in intellectual, but, whatever form the dividends, we share in earning them and in appropriating them. We contribute just about enough for running expenses. We have contributed little or nothing to the original capital invested, but our responsibility, as equal partners, in the corporation is apparent; each one should be eager to pass his ideas to any department for its improvement.

Some of our members wish to have more money put into the concern; others to do better with what we have; still others to do both—put in more for running expenses and do better with the increased revenue that would result.

Any institution, whatever its form, must have leaders and managers of departments in whom it can place confidence, if the concern yields a maximum of possible earnings. These leaders, moreover, have open minds for possibilities of improvement and reform, but it stands to reason that every project of reform cannot be designated as an improvement. It is interesting to note here that the different projects offered for improvement of the JOURNAL are conflicting. One proposes the opposite of another—one absolutely cancels the other. One singles out for improvement merely a re-arrangement of the printed matter. Others, centering upon the subject matter, hold opposite and conflicting views.

It seems to your president that any method for improvement should not tend toward a lowering of the standard of the JOURNAL; toward a standard that characterizes a typical popular journal. The question is too lengthy for a detailed discussion in this address but emphasis upon the importance of such a discussion cannot be over-stated. One word may not be amiss. The *Journal of the American Medical Association* may very profitably be a good standard in this connection.

If the desire for the popularization of the JOURNAL is to be satisfied, I sincerely hope that the present high standard of excellence shall be maintained. One of our great statesmen has advised: "Avoid popularity, it has its many snares and no real benefits."

It is to be hoped that the whole question of improvement of our publications in connection with the matter of financing the same will occupy the serious attention of the Council and that a satisfactory solution of the problem will be arrived at.

RESEARCH.

Our Association, for several years past, has been trying to solve the problem of properly establishing within itself a sub-division which will stimulate and encourage research. Many valuable contributions have been made by our members deeply interested in its promotion. The executive committee has, during the year, adopted resolutions toward this end which will, perhaps, be offered to the Council for its adoption at this session. The committee now fostering this work should receive every possible help and encouragement. The Council will present to this body, perhaps, the result of its deliberations upon this important subject, and anything I may say concerning it would be anticipating what that body has to offer, but it may not be out of place in this connection to refer to the value of proper organization for this work.

May I be permitted to say that there appears, in connection with this subject, a very pressing need of study and investigation that should command our immediate attention. There are those now in our profession who, if they were not already over-worked in the daily routine of teaching and administration, and if relieved of a part of this routine, could give their time for either directing or performing research work. Such as are adequately equipped and competent should be sought out and proper means and influence brought to bear to enable them to contribute to the object in view. Institutions, laboratories and experimental stations where such pharmaceutical work can be properly carried on should be tabulated and brought into coördination and coöperation. Library facili-

ties for investigational work, which every one will admit is essential and fundamental, should also be tabulated and these data should be in the hands of the research committee which shall have the oversight of this work.

Much may be done quite soon, it has been suggested, in relieving over-worked men capable of research; building up of libraries adequate for research; building up weak laboratories; pointing out to experimental stations and laboratories where the lines are narrow and confined to the standardization of their own products. In the former case they discourage and stifle college men who would enter the field of research; in the latter an inducement for contributions on broader lines is necessary.

Doctor James Rowland Angell, Chairman of the National Research Council, has wisely said, in connection with research, that organization is the clue, and the only clue, to securing some approach to a full interest return on the intellectual capital represented by diverse abilities. In a well conceived general program, place can be found for research of very mediocre ability which, if left to itself, is certain, for the most part, to be sterile. As a matter of fact, much of the best research in the great scientific laboratories has emanated from the planning of the master at the head who, throughout a long period of years perhaps, guides and directs the research of his disciples with the result that knowledge of the highest value accrues from the integrated work of men, many of whom, if left unguided, would be producing little or nothing or even that of accidental or incidental character, sustaining no significant relation to the main currents of scientific progress. He also refers to the universities as agencies from which personnel may be derived. These serve a double function in producing the larger part of the research in pure science at the same time that they train research personnel. It is doubtless the aim of our Association in organizing this branch to stimulate, if possible, this important work and also to correlate and coördinate it. Research work, if left to the accident of individual initiative, is likely to be indefinitely postponed, but if this individual initiative could be linked to and coöperated with other individuals and agencies among the workers and research institutions it is evident that this, with the general leadership, will promote the object in view. Pharmaceutical problems are so closely connected with many other lines of investigation that we can scarcely fail to recognize the importance of co-laborating with experimental pharmacological and bacteriological laboratories, for example, that will assist greatly in rounding out the investigation initiated in the pharmaceutical laboratory. No one individual is, or can be, an expert investigator in all directions. He must be a part of one great whole and coöperate with the different departments constituting the whole.

It is highly important that the American Pharmaceutical Association shall build up an independent research organization; at the same time there should be established a method of contact with the National Research Council so that coöperation in the larger domain of research shall obtain. It need hardly be said that isolation is impossible and a joint working with this national council will be mutually beneficial. In order to ascertain just what the status of our Association would be in case it should connect itself with this Council, your president corresponded with the officials of that body. The matter was presented and discussed at a recent meeting of the Division of Medical Sciences of this body. The

opinion was expressed by the members of that division that it was desirable to coöperate in every way with the American Pharmaceutical Association in its plans for research work. If desirable at any time, a sub-committee of the Division on Pharmaceutical Investigation could be appointed. Many types of investigation are represented in the National Council by such committees and the membership of these committees is in no wise limited to those who are members of the National Research Council. The organization of the Division of Medical Sciences does not contemplate representation of a large number of societies organized among men working in the field of medical sciences, but is made up of a group in part representatives of societies and in part members-at-large who represent the various interests concerned in medical sciences. Obviously, the character of the investigations planned would determine whether they should be presented to the Division of Medical Sciences or to the Division of Chemistry and Chemical Technology, or whether any committee to cover this field should be attached to one or the other of those divisions or become a joint committee of the two divisions. The Division of Medical Sciences would be glad to receive for consideration at any time plans for investigation undertaken or proposed by the American Pharmaceutical Association and to aid in the furtherance of such plans in whatever way it could. The National Research Council is not a distributing agency for funds, because it has almost no funds to be distributed by it for the furtherance of investigation. On the other hand, its work consists in the formulation of and the aiding in the carrying out of plans for coöperative investigation, and to this end it is prepared to help in the securing of the necessary funds.

The representation of pharmaceutical technology is so independent and distinct, however, that if representation on this National Council be secured it should be as a separate division—not a sub-division of or subsidiary to Medicine; while Medicine and Pharmacy are coördinate, the best interests of both will be served and greater stimulus to both will obtain, at present at least, if they each have a separate and distinct representation on the National Board.

In view of the peculiar character of pharmaceutical research, your president believes that coöperation with the National Research Council should be effected through a creation of a separate Division of Pharmacy on Pharmaceutical Technology in this National Council. Pharmaceutical research has much that is medical in its nature and a great deal that is chemical. Its work will thus overlap both the Division of Medical Sciences and the Division of Chemistry and Chemical Technology and should be considered independent of them. Moreover, the field of pharmaceutical technology, whose energies are represented by our many manufacturing houses and whose outlays of capital are very large, is so important that its coördinate nature with chemical technology should be recognized.

May I not ask members of the Association to feel free to offer any suggestions to the standing committee of research in charge of this important subject. I am sure the committee will be grateful for any suggestions or coöperation.

PUBLICITY.

For the first time in the history of our organization the importance of publicity has been seriously considered. The Association has become conscious of the rightful claim of the public for authoritative statements concerning the activi-

ties, the findings and of the prevailing spirit and tendency of American Pharmacy. The public press, unacquainted and uninstructed, has at times assumed the attitude of a wise and witty critic of our calling; this is partly the fault of our self-imposed isolation and lack of proper contact with this medium of public service, which should be corrected by furnishing, when opportunity offers, authentic statements as to the service that American Pharmacy has rendered and what it is doing for public welfare. I have been assured that such information will be welcomed by this medium. I feel convinced that the public has only the faintest notion of the service that Pharmacy is rendering to promote human welfare, of the millions of dollars invested in investigation and utilized annually in the manufacture of remedial agents, of the laboratories supported solely for the purpose of research. All this, for finding more excellent agents and preparations and superior and more economical processes for producing them aside from the service of the army of distributors of these agents—an army the value of whose service is only too frequently underestimated and misrepresented. It was a great revelation to one of our public men in Kansas, making inquiry as to the status of our vocation, when he was told that the demand for remedial agents and for material for sanitary purposes classified under the head of sundries amounted in the year 1919 to the sum of not less than $11,000,000 in Kansas City alone.

Pharmacy, let it be said, is not ambitious for mere notoriety; but Pharmacy as well as Medicine should make known its contributions as part of its public service.

Since this question of publicity has now become intimately connected with that of federation, as it should be for proper efficiency and widest scope, it is gratifying to know that the first step toward federation has been taken in the proper promotion of publicity, as will be reported by the committee in charge of this work. In connection with this difficult problem of federation it may be in place to urge that the comprehensive scheme, so ably presented by ex-President Frederick J. Wulling, should be constantly before us. When the body-pharmaceutic fully realizes the necessary interrelation and interdependence of its various sub-divisions, joint action and federal union will be less difficult to bring about than it seems to be at present. If difficulties, now existing, should be overcome, the beneficial results are sure to become apparent.

Dr. E. L. Newcomb's elaborate scheme, which should be studied in connection with that of Dr. Wulling's, for organizing American Pharmacy, worked out in such minute detail, is a contribution for which this Association is indebted. It is desired that this plan be thoughtfully discussed by the committee of which he is a member and presented to the House of Delegates for recommendations, and that these recommendations be arrived at satisfactorily. These two schemes, mutually coöperative, if put into operation, would, it seems, result in team work that would place Pharmacy on such a high plane as would be enviable indeed. It is believed by many that the difficulties to be overcome—and there are many indeed—will not finally prove insurmountable. Let us not cease to agitate and work toward that to which we aspire until a satisfactory solution of the problem of coöperation shall be accomplished.

The plan of reorganization of our Association, proposed by one of our members and circulated to representative members, is a bold and highly idealistic at-

tempt to broaden the scope and usefulness of our organization. Doubtless, the author of this plucky proposal, Dr. F. E. Stewart, will receive a respectful and sympathetic hearing from our entire membership.

THE COUNCIL.

One glancing over the history of the Association will notice how it has been necessary from time to time to meet the growing demands in the administration and legislation of its affairs; how it has required a sub-division of its officers and work. I recall how, early in the eighties, the necessity for the establishment of a subordinate group we call the Council was recognized. I remember how the late Professor Joseph P. Remington was delighted that this step of division and segregation had been taken. The gradual development and unfolding of the work of our organization brought to it last year the recognition of the fact that it would be advisable to facilitate the growing work of this Council to create within the same an Executive Committee that could discuss and formulate such important and pressing measures as would be necessary to present to the Council for action—measures that would arise between the annual meetings and those for which time was too limited to discuss at said meetings. I am inclined to emphasize the importance of this action taken in 1919 and to say, I feel convinced that this further sub-division will result in greater efficiency in the management of the affairs of the Association. Those who study this movement, I feel, will realize that this is a need brought about by a natural evolutionary process connected with the growth of the Association. To your President the meeting and personal contact of the executive committee, held in St. Louis, January 31, 1920, which gave ample opportunity for deliberate and oral discussion of important matters and expedited the work that had to be done, was decidedly more satisfactory than correspondence could possibly have been. As an officer I have felt very grateful to the Association for creating this Executive Committee, for it has surely increased my power of serving the interests of American Pharmacy.

CULTIVATION OF MEDICINAL PLANTS.

If one glances over the pages of pharmaceutical literature he cannot fail to be impressed with the interest that members of the profession have taken in the direction of the cultivation of medicinal plants in the United States. Many of our colleges and schools of pharmacy have, in connection with their institutions, botanical gardens that furnish not only veritable specimens for class study, but authentic material for investigation and research. Important and useful as these two objects are, there is another purpose for which we have justly sought Government aid. We would not designate this purpose as a commercial one—not one, at least, as having its root in a purely commercial spirit. The cultivation of medicinal plants has never had, and perhaps may never have, any great amount of commercial vigor in this country. The persistent effort along this line has been rather in the direction of fostering a policy to make our country, as far as possible, independent in every industry possible and to produce for consumption, as far as may be, pure and reliable material. It is well known that the United States, extensive a country as it is, including as it does almost every variety of soil and climate, is capable of growing countless varieties of plants. What medicinal plants may our country profitably produce? What valuable plant constit-

uents and chemical principles may these plants yield in the laboratory of the pharmaceutical chemist? Should we not cultivate a large percentage of those medicinal plants for the supply of which we are now almost wholly dependent upon foreign countries?

These questions alone, it would seem, are sufficient to engage the interest of our representatives in this governmental city. When it is known that excellent results in investigation of a chemical nature in the refinement of pharmaceutical plant products and in the cultivation of plants of pharmaceutical interest under the supervision of the Government and of the Department of Pharmacy at the University of Wisconsin have been obtained, it would seem unfortunate indeed not to support this more liberally.

Interest in such plant cultivation was estimated by the Department of Agriculture, a few years ago, as yielding an annual production of 200,000 pounds of a volatile oil from one of the plants of the mint family alone. It would seem, therefore, that the commercial importance of the enterprise should attract the interest and support of our statesmen. That foreign countries have acquired a commercial eminence, through their interest in this direction, is a fact in itself that should make its appeal to the Government of our own country. Your President would advocate a policy, both state and national, of liberal appropriations for carrying on the work of drug propagation as being in the best interests of the American people. He would recommend in particular that the various schools of pharmacy give the subject of drug cultivation serious consideration, paying especial attention to growing and developing on a commercial scale such drug plants as are found to be particularly adapted to the climatic and soil conditions of their respective states.

THE APPRENTICE SYSTEM.

The proper method of training young men and women for the practice of Pharmacy is a subject of profound interest and importance to every pharmacist and should receive our very best thought and attention at all times. There has been a gratifying response over the entire country to the demands on the part of state boards for increased educational requirements, both preliminary and professional, and ere long we may well hope to see a minimum of high school graduation and two years of school of pharmacy attendance adopted as prerequisite for license as pharmacist in all of our states. As educational requirements are increased we must, however, effect a shortening of the period of apprenticeship. Our present plan of three or more years of retail drug-store experience as a preliminary to state board examination must be considered as belonging to a day when only an elementary school education was required for admission to apprenticeship, and some method should be found for progressively shortening this period as general educational requirements increase. Any one who may propose a plan that will make this time of apprenticeship more efficient and shorten the time it consumes will be accepted as a benefactor. The average retail druggist of to-day finds it profitable to buy most of his galenical preparations, which means that his ability to teach a young man typical pharmaceutical procedures has all but disappeared. The heart and soul of the value of time in an apprenticeship is thus lost. To ask a young man to virtually do the work of a domestic for three or four years in order

to perfect himself in Pharmacy is putting too far off the goal to be attained. The experience content of retail Pharmacy can be mastered in perhaps one-third of this time if suitable preliminary education is demanded of the prospective apprentice. The value of proper experience is not to be underestimated, but it should be of a character that has a direct bearing upon the development of the individual along the lines of his vocation.

Your President believes that Pharmacy should emulate Medicine and big business in regard to an added emphasis on the value of general non-professional college training as preparation for life work. Precisely as the pharmacist can become the intellectual equal or peer of the doctor and banker, editor and clergyman, will the profession he represents rise in importance and dignity. We need college graduates in Pharmacy—I mean, now, men who have spent four years in general college study—quite as badly as we need college of pharmacy graduates. I say this because I regard the profession as one which actually needs in many places men of this type. This non-technical training gives poise, character, quality, alertness, to its possessor and is invaluable for professional and business men. Men of this superior training should be encouraged to join our ranks, and the apprenticeship period should be progressively lowered for them as evidence of increasing educational qualification is presented. The better trained the young man is the sooner can he master the detail necessary for him to know; the more also will he appreciate the necessity of perfecting himself in technical detail by pharmaceutical college training. The new generation now growing up about us we should realize should be more capable and efficient to meet the demands of the future than we were.

PREREQUISITE LAWS.

We are informed that fourteen states have now prerequisite laws and that others are soon to follow. It is believed by those who are intimately connected with state board work that the time has arrived when prerequisite legislation should be promoted conjointly by the three organizations: the American Pharmaceutical Association, the National Association of Boards of Pharmacy, and the American Conference of Pharmaceutical Faculties. If I were, in this address, to select one of the very important items for serious consideration and action by this Association it would be this very topic. As a practical scheme for bringing about the desired end, joint coöperation of this Association with the others mentioned is highly desirable. This joint coöperation might function as a committee with power to organize a suitable campaign to assist individual states in their contention for such legislation.

SCHOOLS OF PHARMACY.

In a very real sense it may be said that the progress of our schools of pharmacy measures the rate of the professional advance of our calling. In the final analysis they are the barometers of our pharmaceutic life. I am not unmindful of the many improvements and advances along lines of retail business; the splendid achievements of our pharmaceutical houses; the industry and progresss of our jobbers; surely they are pushing forward with tremendous strides and their activities count for much and should be encouraged. But I should like, in closing this address, to call particular attention, to focus your best thought on what seems to me to be the very center, the nucleus, if you please, of the profession of Pharmacy.

A great deal has been said about the dual nature of our calling, of its commercial and professional aspects, and of their ever-conflicting ideals. This vexatious subject I shall not open up for discussion at this time. We are progressing and we shall continue to progress, I feel sure. Herein lies, to my mind, the very hope and solution of the problem. If we truly push forward in the light of to-day, ever guided by the twilight of days gone by, our divergent paths shall sometime meet and Pharmacy shall find itself. To this end I know of no more potent agency, so full of hope, as our educational institutions. Learning, theoretical and practical, has done no less than win the war and save the world for democracy. Our schools, standing aloof from business, must in the large, point the way of pharmaceutic advance. They can lead only as they have your patronage and support. The next generation of pharmacists must be better trained than the one before. Preliminary educational requirements must first of all be advanced, for in proportion as this is accomplished shall we secure the maturity so badly needed in teaching real Pharmacy, rather than the question and answer smatterings so prevalent to-day. I have no fear for the future of Pharmacy if this Association will support an adequate educational program. The profession of Medicine stands behind its schools to their everlasting credit and profit. Let us do likewise, if we desire the prestige and recognition which are our due.

CONCLUSION.

I desire, in conclusion, to express my thanks for the confidence the Association has displayed in honoring me as its president. It is needless to say I shall have your help and support during the sessions over which I am to preside at this annual meeting. If I should err in any rulings I may make, please attribute any such as due to my lack of parliamentary training rather than to intentional self-assertion or prejudice. The opportunity which the office of president has given has been very beneficial in that it has brought more closely to my mind and heart the various interests and problems connected with our vocation. I have been enabled to study them, as it were, at first hand. When I consider these interests and problems I realize the wisdom of the Association in placing its affairs in the hands of such excellent officials as the general secretary, the treasurer, the chairman of the Council, the editors of the JOURNAL and of the Year Book, to say nothing of many others, chairmen of the committees and sections, for example. I have had an opportunity of coming in close contact with these as I could not otherwise have done. What these men are doing and are willing to do for the Association, the average member can scarcely appreciate. As to your president, the conviction has come to him that he should have the enthusiasm of youth and the judgment that comes sometimes with gray hairs; in other words, be a superman. Since this being is yet unborn the Association must always be ready to cover its presidential head with the mantle of charity, for his shortcomings, which, from the standpoint of the many elements that constitute our organization, must be numerous indeed.

SECOND AWARD OF THE REMINGTON HONOR MEDAL.

A special meeting of the New York Branch A. Ph. A. was convened at Hotel Pennsylvania April 19 for presenting the Remington Honor Medal to John Uri Lloyd, of Cincinnati. Nearly one hundred guests assembled in one of the beautiful and spacious banquet rooms of the hotel; there were present representatives of all the national pharmaceutical associations and several state associations, and of a number of pharmacy schools and universities. Various drug and chemical industries were represented, and some of the guests came from other cities and

REMINGTON HONOR MEDAL

states; all of them to honor the distinguished recipient of a medal annually awarded to one who has performed signal service for American Pharmacy.

The credit for the idea of establishing the Remington Honor Medal is due Dr. Hugo H. Schaefer, who presented plans at the March 1918 meeting of the New York Branch A. Ph. A.; so well were these prepared that few amendments

JACOB DINER
Senior Past President
New York Branch A. Ph. A.

JOHN URI LLOYD
Cincinnati, Ohio, Recipient
of Remington Honor Medal 1920

HUGO H. SCHAEFER
Secretary Remington Honor
Medal Committee

have been necessary and the proceedings for the awards have not been subject to delays. The chairman of the committee is the Junior ex-President of the American Pharmaceutical Association; the Secretary of the New York Branch A. Ph. A. serves the committee in a like capacity, and these duties have been expeditiously performed.

The evening's program was well arranged by the committees in charge; unfortunately Major Frank L. McCartney, President of the Branch, was called to Washington on important business; owing to his absence, Dr. William C. Anderson presided. The latter extended greetings to the guests and read a number of congratulatory telegrams and letters from some who were unavoidably absent. After the guests had done justice to the dinner, Vice-Chairman Anderson introduced Senior Past President Jacob Diner, of the Branch, who as such annually presents the medal. The latter spoke of the work accomplished by the guest of honor in the sciences and for the pharmaceutical and chemical industries, his service for pharmacy and the Association during more than half a century. Incidentally he referred to the fact that this day the recipient celebrated his 71st birthday, and this year the 50th anniversary of his affiliation with the American Pharmaceutical Association. The speaker said that while a signal honor was conferred, the recipient honored the Association.

Before responding formally, Professor Lloyd spoke of events in his life that made possible the honor conferred on him. After the conclusion of the response by the medalist, the following were called upon and spoke briefly with reference to the work accomplished by the medalist, and the influence of the American Pharmaceutical Association, not only on American Pharmacy but the sciences and the chemical and pharmaceutical industries: Charles H. LaWall, George M. Beringer, Edward A. Sayre, President of the New Jersey Pharmaceutical Association, Prof. Charles Baskerville, and E. G. Eberle.

RESPONSE OF JOHN URI LLOYD, MEDALIST.

Friends and Comrades:

When comes an opportunity to respond to the congratulations of friends concerning a something accomplished or an honor gained, comes also the privilege of crediting absent friends who have been helpful in consummating the happy event. Comes even a questioning of one's right to accept the honor without acknowledgment of the services and contributions of those *silent* co-partners. Regardless of conventionalities, may not one who holds views such as these, in justice to himself, claim the privilege of frankly and openly dividing with absent friends the honors of the evening, sharing with them the tributes that may justly be considered their part? Especially does this apply when the recipient, past the allotted age of man, beholds not only an exceptional circle of friends present, but in mental vision, an even greater host of comrades, allies one and all, gone from human sight. May he not then speak reverently the names of a few memory cherished friends to whom this occasion would have been a joy, and but for whom the medal now bestowed could not have been extended?

As in life appears the face of this speaker's first preceptor, W. J. M. Gordon, of Cincinnati, whose methodical instruction and exacting rules, extremely severe and inflexibly enforced, guided the speaker in the beginning of his career, in the winter of 1863. Fortunate was it for that immature country-bred lad that in the beginning of his career, no deviation from duty was permitted. Fortunate was it, too, that with far-sighted interest while the boy was yet an apprentice, Mr. Gordon, fifty years ago this year, filled out and signed the blank that gave to him the

privilege of membership in the American Pharmaceutical Association. A hard taskmaster was Mr. Gordon; long were the hours of service, the "evenings off," one each week, Sundays for the boy, one each month. But, as the speaker looks back over the decades passed, he appreciates that had a different course then been adopted, this evening's occasion might not have been for him.

Appears now to mind's sight George Eger, the talented German apothecary who, next, in 1865, took charge of that apprentice. No pains spared he to instruct the rather tardy but yet hopeful youth. He, too, held that lad to the strictest professional accountability. Even more inflexible were his rules and processes than had been those of Mr. Gordon. Surely, those who meet here to-night will agree that but for the foundation laid during those four years' persistent instruction, this honor medal could never, to a homeless, friendless country-bred boy of sixty years ago, have been this evening awarded.

"Honor to whom honor is due." Would that all here could see, as does this speaker, the faces of these two men, talented members both of our Society, before most of those present were born! Would that both could tonight join in receiving the honors due to them by reason of their services to that apprentice!

A half century of time brings many friends, its mellowing touch makes comrades of one and all. Come now to sight a great group of worthy men; but not as a group came they to the boy. One by one they passed into and out of his life, as one by one they severally sought the mystic domain where sleep the silent majority. Very pleasant is it in peaceful meditation to call their faces from out the mind's recesses, very helpful is it to feel that even though freed from life's activities they yet live and are of service.

Turn to the volumes of the Proceedings of our Society. Read the names recorded during the half century just passed. Not that of a cumberer of the ground, nor yet of a nonentity, he ventures to hope, has been the speaker's part in those fleeting years. Sunshine there has been, and clouds a-plenty. Blessed, is it not, that under the touch of time the brightness of other days grows still brighter in memory, while the softening influence of the fleeting years gives past-time gloom no present setting?

Turn as you may the pages of those fifty volumes of Transactions. The name of every man recorded brings only the thought of comrade, to him who this year of golden jubilee is made doubly blessed by this evening's events. Would that not alone his two preceptors, but one and all whose names are recorded in these volumes could be with us this night, for all, by what thay have accomplished in the passing along, have earned the right to share in the honors this day offered him who was the apprentice lad over half a century ago.

Where pharmacist and teacher alike for so many decades have in our Society taken a just part, it is impossible to make a selection of names. But as faces rise successively to view, may we not reverently venture to call out a few names, all well known even to the youngest present? Procter and Parrish came very early; famous teachers were they. Squibb and Chapman, Maisch, Ebert, Markoe, Judge, Prescott, Hoffman and Rice. Enough, enough. Need more be added? But for these men and a host of other co-laborers, this speaker could never have been privileged to hold in his hand this, your great gift.

Nor should we neglect to state that happily in those days, the members of

the medical profession were close to the apothecary, who was just beginning to designate himself under the term pharmacist, as a contraction of the long-established name pharmaceutist. Discussions concerning prescriptions, problems concerning drugs new and rare, natures of pharmaceutical preparations, were constant subjects of discursive argument. In this way, the apprentice of fifty years ago came in touch with the very cream of Cincinnati's professional men. King, Scudder, Pulte, Bartholow, Stevens and others akin in idealistic effort, were honored teachers. They, too, need be thankfully credited. But for them, many a phase of the apothecary's duty, in those days a prescription necessity, would never have been this speaker's opportunity. Their voices, long silent in the past, left messages that flow onward, let us hope ever onward.

Reflect over it all. If the credit to whom credit is due be abstracted from this speaker's resources, behold, how little remains.

But one name cherished with us all, has been as yet unspoken. Very close were we two, from times far back. Decade after decade, each year we met. Pleasures and disappointments came to each in the passing along. Like ideals possessed us, though our fields of activity were far separated.

Let us again turn thought back half a century. Rises now before us the face of the then young man, now in view, little more than a lad, earnest, hopeful, inspiring to a degree. Pass next with a bound the intervening years to the one just closed. Came to that friend, as comes to everyone, the shutting of the door that time slowly but irresistibly moves to its final setting.

Listen! It seems as though it were but yesterday. In the home of this speaker, side by side, sat two old men who talked of times gone by, of men now unseen by others and events in which each had taken a part, both in life's bright beginning and in the memory of the blessed sunny passing along. The mellowness of age had come at last to both. The clock on the mantel ticked yet to both, but soon must tick for one only. Comprehending fully that they might that day part forever, they reluctantly bade each other adieu, and soon thereafter the one who left that home was ushered across the great divide into the company of friends whose faces are now but memory pictures.

Need that name be spoken? Is it not engraved in the heart of every comrade present as indelibly as it is on the cherished honor medal held before you? Let us utter it reverently, in tones that all can hear, but softly,

JOSEPH P. REMINGTON.

Close now this chapter, this eulogy of and credit offering to our absent friends. A word to you, who in the name of Remington make this gift, may not be amiss. This you feel to-night, each and every one. Comes to you the satisfaction of knowing that to your generous act no touch of selfishness clings, that the honor you extend in the name of Remington is given because of what Remington accomplished in his chosen field, what he did, not for himself, but for others.

An inspiration is this tribute you are offering, in behalf of ideals of the past, and service to the present. Seemingly close together, as you look back, will lie the dates of your early meetings, yearly events, but one is scarcely passed till comes another. "Keep the home fires burning." Beautiful thought! Like the faith of the Oriental devotee who, in the far East, keeps alive the spark

of fire that within the sacred sanctuary has never darkened, will be your part as recurs this beautiful ceremony year by year, that honors you in the eyes of all our friends.

And may not the recipient of the tribute this evening extended, now add a word in his own behalf, without breaking the conventions of occasions such as this? He comes this day to awaken mental greetings with friends of old, but not afar off, and to link them with friends new, close about. To weave into this story of the past the names of those who taught us how to live and sacrifice, who, joining the past with the present, gave him the right to stand as their representative. In their name, as well as his own and his own loved ones, he wishes to thank you—his friends—for the privilege offered in this eventful occasion.

And lastly, most gratefully does he accept the honors this day bestowed, honors that can come to but one person each year.

May it not be asked? Could a more touching testimonial be devised to gladden the heart of him who, an apprentice in pharmacy still, this the evening of his seventy-first birthday, receives this medal and celebrates also his golden anniversary of membership in this, our beloved Society?

THE MACHINERY FOR THE U. S. P. IX REVISION.*

BY E. FULLERTON COOK.

General Committee of Revision.—The General Committee of Revision, consisting of 51 members, one of whom was the President of the Convention, *ex-officio*, having been elected by the Pharmacopoeial Convention of 1910, the Committee proceeded to elect its chairman, but largely left in his hands the details of organization.

There was to be an Executive Committee of fifteen members to be elected from the General Committee and presided over by the chairman of the General Committee, and it was understood that there would be sub-committees.

Professor Remington, the elected chairman, fortunately had experience in revision work covering at least four decades, and, qualified by his natural organizing ability, was able to create a machine which worked harmoniously and effectively. With the approval of the Committee and Board, the following general plan of organization was carried out:

Sub-Committees.—Each member of the General Committee was invited to express his preference for the type of revision work which he would care to assume, the list of sub-committees having been decided upon at the first meeting of the Committee in Washington. These sub-divisions consisted of:

1. Scope
2. Therapeutics, Pharmacodynamics and Posology
3. Biological Products, Diagnostical Tests
4. Botany and Pharmacognosy
5. General and Inorganic Chemistry
6. Organic Chemistry
7. Proximate Assays
8. Volatile Oils
9. Fluid and Solid Extracts, Tinctures
10. Aromatic Waters, Spirits, Liquors
11. Syrups and Elixirs
12. Cerates and Ointments
13. Miscellaneous Galenicals
14. Tables, Weights, Measures
15. Nomenclature

From these preferences, the chairman of the General Committee appointed sub-committee members. Naturally, the botanists indicated their preference

* Read before the Philadelphia Section of the American Chemical Society.

for that type of work; chemists selected chemical subjects; the physicians, scope, therapeutics and related subjects; while the pharmacists were specially interested in pharmaceutical preparations. These assignments by one who was personally acquainted with practically every member of the Committee, proved generally acceptable and satisfactory. The appointments, however, according to the by-laws, were confirmed by the General Committee and Board of Trustees. Each sub-committee then proceeded to elect its chairman, the election being finally approved by the General Committee and Board of Trustees.

Executive Committee.—By common consent, it was then decided that the chairmen of sub-committees would constitute the Executive Committee, the general chairman presiding according to the by-laws. This plan has been very effective, as the Executive Committee has thus consisted of representatives from every sub-committee and naturally, being chairmen, they were all active workers.

Method of Revision.—The following plan of procedure was then adopted: The Sub-Committee on Scope decided very promptly upon the majority of the substances to enter the new Pharmacopoeia. This list, over which there was no difference of opinion, was immediately placed in the hands of the other sub-committees for their consideration, while the Sub-Committee on Scope proceeded with the further consideration of drugs, chemicals and preparations, over which there was some question concerning admission. As these were decided they were reported to the Executive Committee, with the vote of the Sub-Committee on Scope, and finally, if admitted, referred to the proper sub-committee for revision. As a preparation, drug or chemical, or possibly a process, was referred to a sub-committee, the chairman was given entire liberty of action and two different methods were in general use, depending upon the preference of the presiding officer. In one instance, the chairman compiled all available data on each subject and submitted it to his sub-committee for their consideration and comment. Having completed this step, and any necessary experiments or tests, he then prepared a tentative text, embodying the desired changes, as indicated by his own experience and experiments, and the recommendations of members of his sub-committee. The text was then submitted to the sub-committee and again subjected to their criticism. When finally satisfactory to the sub-committee, the revised text was sent to the chairman of the Executive Committee, who modified the wording, if necessary, to bring it into harmony with the editorial style decided for the new book, and then submitted it to the Executive Committee for their comment.

The other plan used by some sub-committee chairmen was to assign the subjects submitted for revision to individual members and ask that reports be made promptly to the chairman of the sub-committee, embodying the proposals for a revised text. These reports were in turn submitted to the entire sub-committee by the sub-committee chairman and, when finally approved, placed before the Executive Committee. The general chairman now compiled all comments and discussions, submitted by the members of the Executive Committee, and these were presented before the entire Executive Committee, and copies sent to the members of the sub-committee which had submitted the original report.

When practically all of the articles submitted to a sub-committee had been reported upon, in most instances arrangements were made for the members of

the sub-committee to hold a personal conference, when all suggestions or adverse criticisms were considered, and a report drawn up for submission to the General Committee. At this time the chairman of the General Committee again carefully revised the copy from an editorial standpoint, and submitted it in full, as proposed for inclusion in the new Pharmacopoeia, to all members of the General Committee.

It must not be thought that the General Committee had no part in the revision up to this time. Many subjects of general interest, and policies and principles of the revision had been placed before the General Committee as the work proceeded, and all comments received from many sources and submitted to the convention had been published in the General Committee circulars. Another feature which proved of great value was the placing of monthly "reports on progress" from every sub-committee, before the General Committee. This feature of the revision work was not generally known, but the general chairman sent a request to every sub-committee chairman, about ten days before the end of each month, asking him to fill out an enclosed blank. This blank covered all likely activities of the sub-committee during the month, and these were compiled and submitted regularly to the General Committee as already indicated. This plan increased activity in the sub-committees and at the same time kept the General Commitee familiar with all parts of the work. As the revision work is largely voluntary, it was found desirable to use this publicity method, within the Committee, to stimulate progress.

At the same time that this material was submitted to the General Committee, abstracts of proposed changes were prepared and published in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, and reprints very generally distributed, so that the country could see what changes were proposed in advance of the actual publication of the book. In the experience of the last committee, it was shown that any extensive publicity of proposed changes prior to this point would be premature. During the actual discussion on revision, the work would be prolonged beyond all reasonable time if the public would be admitted to the preliminary committee conferences, and discussions are more free and valuable if kept within the sub-committees. The experience of the last Revision Committee has shown that publication at this stage of the revision gives ample time for those who are not on the committee to give valuable criticism or recommendations and this feature should remain a part of any revision scheme.

Preparing the Manuscript.—Ample time having been allowed for comments from the committees and also from those who were interested in Pharmacopoeial revision, who were not members of the Committee, but had access to the published abstracts, these were assembled on sheets containing the latest copy of the proposed text, as submitted to the General Committee, and were given detailed consideration by the chairman, in conference with the different sub-committee chairmen. Those which were found of vital importance and sufficiently tested, were embodied in the text. The manuscript was now made up—every title, the construction of sentences, capitalization, punctuation, and other editorial detail being given a final polishing, and the manuscript sent to the printer.

Of course, before this time, sample pages to show styles of type and general arrangement had been approved. The galley proofs were submitted on standard

size paper ($8^1/_2 \times 11$), perforated for binding, and were clean impressions taken from a press, so that they were perfectly legible. The galley was now sent to every member of the Executive Committee, in duplicate, and as the galleys were returned by the members to the general chairman, the comments were assembled in the chairman's office upon one set of galleys. These comments were once more given consideration in conference with the sub-committee chairmen, and corrected copy for page proof returned to the printer. Page proof in duplicate was now submitted to every member of the General Committee, and the returned comments from the General Committee once more assembled on one set of page proof, and from this material the copy for foundry proof was prepared. The general chairman finally passed upon the foundry and plate proofs and printing was ordered. Two thousand copies were in the first printing, and these were sent to the journals for review, to all members of the Committee of Revision, and a few were sold. A few typographical errors were discovered by this critical review of the finished book and these were all corrected in the plates before the first large edition of 10,000 copies was printed, so that the main edition, from the very start of the printing, was free from the majority of the errors which have been only recently announced.

Conferences Suggested for the New Revision.—As a result of the experience in the revision of the U. S. P. IX there is one outstanding feature which would seem to lend itself to broader application in the next revision, namely, an increased number of personal conferences. While it is true that the next revision of the Pharmacopoeia does not seem to call for as extensive alteration, in either style or fact, as heretofore, and therefore will naturally require much less time for revision than the U. S. P. IX, yet the correspondence method is so cumbersome and time-consuming, that the conference plan for getting results would greatly lessen the necessary time of revision. As an illustration of the time necessary for the correspondence methods, with the committee scattered over a large part of the United States, and the time for an exchange of mail being at least five days in some instances, the following general plan had to be followed in voting:

The subject for consideration was presented to the Committee by the general chairman, with a statement of the proposal and any necessary explanations or comments for the members. Two weeks was allowed for assembling all discussions. At the end of two weeks, a voting sheet was mailed to each member with all the comments on the proposition. Two weeks was again allowed for the return of the voting sheets before the result of the vote was announced, thus four weeks was the minimum time required for a vote. As frequently happened, a member would submit an amendment, which required another two or four weeks for final settlement. Thus it will be seen that the hundreds of problems before the committee involve an extended time for final agreement.

It is therefore suggested that when the General Committee of Revision of the U. S. P. IX submits its recommendations to the Convention for procedure in the new revision, they advise the new General Committee to meet for at least one day following the Convention, elect a chairman, sub-committees, and sub-committee chairmen and dispose of a few of the more important questions of policy before adjourning.

There should then be arranged a personal conference for each sub-committee,

as soon as they have enough material before them for arriving at decisions, which would probably be about six months after their organization. The most important modification to increase efficiency and lessen the time of revision, however, would be a personal conference of the Executive Committee, at least once in each two months during the active work of revision. In the interim, the general chairman could place many problems before the committee, with discussions, and a programme for a conference at an agreed time, when most of the questions under consideration could be decided in a one-day meeting. Full stenographic details of the conferences should be presented to each member immediately after the meeting and the decks being cleared by the conference, new work could be considered in preparation for the next meeting. It is believed that if the Executive Committee again consists of the sub-committee chairmen, these personal conferences will tremendously stimulate the work of the sub-committees, as each chairman will be expected to report in full the condition of the work in his own sub-committee at each of these conferences. This plan will, of course, necessitate a personal sacrifice of time on the part of the members of the Executive Committee, but it is believed that this method will so greatly facilitate the work of revision, that it can be concentrated into the first year and everyone promptly relieved of the burden. Of course the railroad and hotel expenses of these conferences should be met by the Convention.

SUGGESTIONS FOR THE NEW PHARMACOPOEIA, WITH SPECIAL REFERENCE TO PETROLEUM PRODUCTS.*

BY ROBERT R. GERSTNER.

Numerous suggestions have been made from time to time in attempts to obtain a more satisfactory ointment base than the usual benzoinated lard from which most official ointments are made to-day. In reviewing pharmaceutical literature it may be noted that the proposed changes are of dubious value, but the very fact that attempts are continuously being made to modify this ointment base is a conclusive proof that a change is desirable.

In the preparation of ointments it is important that perfectly smooth, homogeneous mixtures be obtained and that the fatty vehicle be stable and absolutely free from rancidity, since they are often applied to tender surfaces and would otherwise prove a source of irritation instead of soothing applications. Benzoinated lard no matter how carefully prepared will become rancid. When rancid it is of a granular appearance and consistency and therefore makes an unsightly and unsatisfactory ointment.

The tendency of lard to become rancid is increased very much after such ointments have been heated to the temperature necessary for their sterilization. These drawbacks of this widely used ointment base are just selected at random, but many more have been mentioned from time to time in pharmaceutical publications. In addition the cost of lard at present is constantly increasing and has reached the point to-day where it is the most expensive of the commonly mentioned ointment bases. Pharmaceutical researchers are constantly striving to devise new methods of production, and experimenting with different materials, aiming

* Read before New York Branch, A Ph. A., March meeting, 1920.

to reduce costs without materially affecting the physiological action and physical properties of the original formula.

I would suggest that greater consideration be given to the cheaper but more stable petroleum products in place of the present animal and vegetable bases in the following official galenicals.

Zinc Oxide Ointment.—Ointment bases are classified as non-absorbable or absorbable, the non-absorbable ointments being intended to produce some medicinal effect on the outer skin, such as astringent, counter-irritant, antiseptic, germicidal or similar effect or possibly as protective agent. Penetrating ointments are designed for a deeper local effect, such as anodyne, stimulant, or resolvent. In such ointments where solubility of the medicinal agent and absorption are needed no improvement over the present base can be made. In the case of Zinc Oxide Ointment, however, the therapeutic value of the ointment depends upon the astringency of the powdered zinc oxide and not upon the nature of the base. Therefore petrolatum would possess all of the advantages without any of the above-mentioned disadvantages.

Phenol Ointment.—This also is a preparation where absorption through the skin is not desired but acts purely as an external antiseptic. A sterilized ointment of phenol was widely used during the late war in hospitals and surgical rooms and it was found that a petrolatum base could be readily sterilized without any deleterious effects.

Iodine Ointment.—It is a well-known fact that this ointment never possesses its full amount of free iodine, due to the fact that the lard becomes iodized. This not only means a lowering of the iodine content but also results in a change of the physical appearance of the ointment which becomes more or less granular. However, in the use of Iodine Ointment absorption through the skin is often desired. Petrolatum itself, therefore, would not properly replace the present ointment base. Nevertheless a mixture of readily absorbable lanolin with petrolatum would form a satisfactory base which would possess all of the advantages with none of the disadvantages of lard.

Sulphur, Tar and Similar Ointments.—These are ointments in which no absorption is desired; their action is purely local as an antiseptic and germicidal agent, the base acting merely as a vehicle; petrolatum in addition to being a vehicle would serve as a protective agent.

Camphorated Oil.—Cottonseed oil has been used as a base for Camphor Liniment since the 1880 Pharmacopoeia. Previous to that time olive oil was used. The change to the present base was no doubt made for reasons of economy, for both oils are about equal, comparing their therapeutic value. Cottonseed oil is about one-half as expensive as olive oil.

While, of course, it will always be desirable to have a 20 percent Camphor Liniment vegetable oil base official, yet the author believes that a weaker Camphor Liniment with mineral oil base could in many instances be used without disadvantage. At present in addition to the 50 percent Mercurial Ointment with lard base there is in the Pharmacopoeia the dilute ointment with petrolatum. No criticism has ever been made, as far as the author knows, in thus having two ointments of the same medicinal ingredient, one stronger and using the more expensive base, the other weaker and using the cheaper and more stable base. Consideration

of these facts should show that the above suggested plan of having two forms of Camphor Liniment is not as radical as it would seem at the first glance.

In concluding it may be also pointed out that while there is no doubt considerable difference of opinion in the medical profession regarding the value of mineral bases in comparison with vegetable bases, yet not many years ago olive oil and other vegetable oils were used exclusively as vehicles where bland and soothing bases were required; to-day, however, mineral bases have already grasped a firm foothold in the manufacture of such medicinal preparations and the writer predicts that in the near future phenomenal strides will be made along these lines.

A FEW SUGGESTIONS FOR THE FORTHCOMING PHARMACOPOEIA.*

BY JACOB DINER.

Inasmuch as the Pharmacopoeia is, primarily, intended to be a scientific book of standards, and, in consideration of the fact, that article 18 of the "General Principles to be followed for the ninth revision" (p. 34) specifically states, "It is recommended that the introduction of new compound preparations be discouraged as far as possible," there seems to be no reason why some of the compound preparations of the ninth revision may not be deleted. Especially is this true in the case of compound preparations which are rarely used and which could just as readily be incorporated in the National Formulary, which is primarily designed for that purpose and has a legal status equal to the U. S. Pharmacopoeia. As examples of compound preparations which could readily be spared from the U. S. P., the following are mentioned: Creosote Water, Cantharides Cerate, Compound Infusion of Senna, Compound Glycyrrhiza Mixture, Aromatic Spirit of Ammonia, Compound Powder of Glycyrrhiza, Compound Spirit of Juniper, Compound Syrup of Sarsaparilla, and the various official troches.

Instead of stating, under tests, the result of a reaction by one term, a few explanatory words are advised; for example, " * * * * * 100 mils each of Distilled Water are not affected by the addition of barium chloride T. S. (sulphate) * * * ." "Absence of sulphate" would state the facts more clearly.

International standards have been adopted for preparations of potent drugs—a step decidedly in the right direction. Bearing this in mind, I fail to see why Camphorated Tincture of Opium should materially differ in opium content from European pharmacopoeias, neither do I consider the mode of preparation an ideal one. The British, Swiss, French and German pharmacopoeias all have an opium equivalent of five (5) grammes; three are made with tincture of opium, the French employing powdered opium. I suggest the following formula:

Tincture of Opium	50 mils
Benzoic acid	5 Gm.
Camphor	5 Gm.
Oil of Anise	5 mils
Diluted Alcohol to make	1000 mils

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* From a paper read before New York Branch, A. Ph. A., by the author, March meeting, 1920.

SUGGESTIONS FOR PHARMACOPOEIAL REVISION.*

BY ROBERT R. LAMPA.

The revision of the U. S. Pharmacopoeia and National Formulary is a work that should be conducted with the greatest possible care. Both being legal standards, or the law of the land, everything before being therein incorporated should be carefully weighed and considered, so that such standards as may be adopted shall be reasonable and rational and not likely to work hardship or injustice to the different interests they affect, medical, pharmaceutical, commercial, and also in the last analysis—the public. It will be conceded that all who make use of the Pharmacopoeia and National Formulary are only too anxious to meet the requirements laid down. It is a source of worry and anxiety not to be able to do so just because some of the standards are either not sufficiently specific or altogether too high. In many instances goods, particularly botanicals, cannot be had to meet all the tests; in some instances so little of an article meeting the test is available as to make the price of it prohibitive.

In former revisions there has been a tendency to introduce innovations—too much so. No objections can be raised against the introduction of real improvements, that is, in the line of progress. But there is no sense in every now and then changing the formula of a preparation to meet the whim or fancy of some pedant. Why should preparations of acknowledged merit, which have stood the test of years and which are fixed in the minds of the physicians, be subjected to constant alterations in formulae? Why should a household remedy with which the public has been long familiar be made the subject of criticism and be altered so that it is not recognizable by those who have been accustomed to use it. Nor does it appear advisable to include in the Pharmacopoeia products under names with which but few are familiar and which are rarely prescribed under the official designation. Phenylcinchoninic acid is a case in point.

In some instances the product commercially available falls short of pharmacopoeial requirements in some one particular, one which little, if at all, affects its therapeutic value. Oil of Sweet Almonds, for instance, is usually deficient in the saponification number. It may vary only a few points. Every other test may indicate it to be of absolute purity and good quality, yet according to the present standard it would have to be rejected. To secure the little when it is to be had that meets the requirements in full means paying a premium. And in these precarious times when supplies are inadequate anyway and prices abnormally high is it the part of wisdom to maintain so extreme a standard?

In a former revision of the Pharmacopoeia a standard for *Quinine* was set which was based on extreme laboratory requirements. The product manufactured in large quantities to meet the demand naturally failed to come up to the official standard. Had this high standard been insisted upon it would have barred the manufacture of *Quinine* on a large scale. The price of any that might have met this test would have been so high as to drive it out of use.

The commotion caused during the war period by the skyrocketing cost of *Potassium Salts* brought into use *Sodium Bicarbonate* in making *Solution of Mag-*

* Read before New York Branch, A. Ph. A., March meeting, 1920.

nesium Citrate. Here a beneficial change was made. The use of either *Sodium* or *Potassium* might be made optional.

Sapo Mollis (*Soft Soap*).—The product used for generations under the name of *Green Soap* was made from Linseed Oil. Cottonseed Oil Soap is no improvement. The old-fashioned Green Soap appears to be preferred by the practitioner and pharmacist because of greater uniformity in appearance and consistency. Tincture prepared from it appears to better satisfy the physician and public. Would it be amiss to restore it?

Ointment of Zinc Oxide.—The use of Mutton Tallow in place of lard is recommended. It is less liable to rancidity.

Solution of Iron Albuminate.—Because of lack of stability and the fact that it is little prescribed would it not be policy to delete it?

Mustard (*Sinapis Alba*), *White.*—The Pharmacopoeia states that White Mustard does not yield "allyl isothiocyanate upon distillation with steam." This is evidently an erroneous statement as the bulk of White Mustard yields Synthetic Oil Mustard upon distillation with steam, usually as much as the requirements for Black Mustard. It would seem that a White Mustard corresponding with the Pharmacopoeial requirements in this particular would be practically inert.

Compound Spirit of Ether, N. F.—The so-called Ethereal Oil required for the purpose is practically unobtainable. It would appear that this could well be changed to Spirits Ether, omitting the Ethereal Oil, and have the term *Hoffman's Anodyne* or *Hoffman's Drops* apply thereto.

Botanical Drugs.—It is also suggested that on such drugs the standard for ash content be revised. The following list shows the official standard compared with the average percentage of ash found in supplies obtainable in the market:

AVERAGE ASH PERCENTAGES OF MARKET DRUGS COMPARED WITH OFFICIAL ASH STANDARDS.

Aconite Root, U. S. P.—0.05% ether soluble alkaloids of Aconite. Average, 0.45.

Aletris Root, N. F.—Not over 16% Ash. Average, 25% ash.

Beth Root, N. F.—Not over 5% Ash. Average, 7% Ash.

Culver's Root, N. F.—Not over 12% Ash. Average, 22.90% Ash.

Damiana Herb, N. F.—Not over 10% Ash. Average, 12.85% Ash.

Dandelion Root, U. S. P.—Not over 10% Ash. Average, 12½% Ash.

Echinacea Root, N. F.—Not over 6% Ash. Average, 6.50% Ash.

Euphorbia Pilulifera, N. F.—Not over 12% Ash. Average, 13.60% Ash.

Fringe Tree Bark of Root, N. F.—Not over 5% Ash. Average, 10.75% Ash.

Helonias Root, N. F.—Not over 5% Ash. Average, 19.55% Ash.

Hydrangea Root, N. F.—Not over 3% Ash. Average, 5.25% Ash.

Kousso, N. F.—Not over 9% Ash. Average, 17.50% Ash.

Licorice Root, Spanish or Italian, unpeeled, U. S. P.—Not over 7% Ash. Average, 10.50% Ash.

(The Pharmacopoeia requirements evidently apply to Russian Peeled Licorice Root.)

Lobelia Herb, U. S. P.—Not over 8% Ash. Average, 10.85% Ash.

Mace, N. F.—Not over 3% Ash. Average, 4.25% Ash.

Mandrake Root, U. S. P.—Not over 3% Ash. Average, 10% Ash.

Myrrh Gum, U. S. P.—Not less than 35% soluble. Not over 8.5% Ash. Average, 30% Soluble. Average, 12% Ash.

Soap Bark, N. F.—Not over 10% Ash. Average, 12.35% Ash.

Valerian Root, U. S. P.—Not over 20% Ash. Average, 25% Ash.

Wild Indigo Root, N. F.—Not over 5% Ash. Average, 6% Ash.

Yellow Dock Root, N. F.—Not over 10% Ash. Average, 18% Ash.

Etc., etc.

SOME REVISION SUGGESTIONS.

BY E. V. KYSER.

The March issue of the JOURNAL contains a number of suggestions for proposed changes in the official preparations containing Oils or Soap.

There is not a great difference in the commonly used fixed oils, and there should be a better understanding regarding the chemical and physical standards of the various oils.

Linimentum Camphorae.—I. Lewyn suggests the use of peanut oil to replace cottonseed. I do not agree with his statement that cottonseed oil is adulterated to any extent. It is true that unrefined cottonseed oil usually contains a large percentage of foreign matter which may cause turbidity. Peanut oil is nearer olive oil in chemical composition and does not possess the objectionable characteristics of cottonseed oil. Peanut oil is a non-drying oil and not likely to become oxidized as readily as cottonseed oil. I believe this would be a satisfactory change.

The recommendation of the use of peanut oil instead of soap liniment for Linimentum Chloroformi, because of its greater stability, and prevention of the evaporation of the chloroform would seem to be without foundation. Soap in a solution of chloroform is stable. Chloroform liniment is a simple mixture and there is no evaporation of chloroform in making.

Linimentum Saponis.—I. Lewyn recommends the use of camphorated oil in place of soap and camphor. This would necessitate a change in the name of the liniment. I do not believe that this change would give good results, as the fixed oil is not miscible with alcohol and consequently would separate out. However, it would be just as effective and more economical to use other than an olive oil soap.

Linimentum Ammoniae.—I. Lewyn: Peanut oil here would function the same as sesame oil. The fact that it is a home product should encourage its adoption.

Liquor Cresolis Compositus.—Method of analysis for water. A weighed sample of convenient size is transferred to a distilling flask, and heated at 105° C. until nearly all of the water is driven off. The temperature is gradually increased to 180°–190°, and continued for a few minutes. The distillate is received in a graduated tube. Carbon tetrachloride is added, and the whole thoroughly shaken. The carbon tetrachloride mixes with the cresol and the water is so separated and can be read off and calculated.

In making cresol solution any oil used will answer the purpose of linseed. It is not necessary to use any potash or alcohol in the formula.

If the Pharmacopoeia permits the use of soda in Sapo Mollis as I have suggested, the soft soap and cresol could be mixed in the proportion of one part cresol to one part soft soap.

The use of Oleic Acid, as suggested by S. L. Hilton, will give a good solution. I would recommend that the oleic acid be saponified before adding.

The action of the alkali on cresol here tends to decrease the amount available for the complete saponification of the oleic acid.

LIQUOR SODAE CHLORINATAE U. S. P. 1840–1920.*

BY H. A. LANGENHAN AND F. W. IRISH.

ABSTRACT.

Although a formula for Chlorinated Soda Solution did not appear before 1822, similar solutions had been prepared before this. Thus in 1788 Berthollet had prepared a liquid with "bleaching and disinfecting" properties, by the action of chlorine upon aqueous alkaline solutions. In 1792 the physician Percy prepared the chlorinated potash solution, a product placed on the market under the title *Eau de Javel*, which was at first used by the pharmacist Labarraque, but later replaced by the chlorinated soda solution.

Labarraque prepared his solution by passing chlorine into an aqueous solution of soda. Payen offered a modification of the process using chlorinated lime and sodium carbonate, the method now generally used.

The French Pharmacopoeia of 1837 was the first to introduce this solution, applying to it the title *Hypochlorite de Soude Liquide*. The London Pharmacopoeia of 1838 introduced it under the title *Liquor Sodæ Chlorinatæ*, as did the U. S. Pharmacopoeia of 1840.

Little was done with the development of this form of disinfectants and antiseptics until the advent of the European war. The investigation of the uses of this preparation led to the formulation of the well-known "Carrel-Dakin" solution, the literature on which alone constitutes an exhaustive study. Likewise an investigation of organic combinations of chlorine for antiseptic purposes was begun as manifested in the preparations under the trade names "Chloramines."

The development of the U. S. P. formula for Chlorinated Soda Solution for the past eight revisions offers an interesting study from the nomenclature to the method of assay. A brief oversight over this part may be had by a glance at the list of text subjects commented upon:

1. Titles and Synonyms.
2. Definition.
3. Preservation.
4. Sodium Carbonate as an Ingredient.
5. Chlorinated Lime as an Ingredient.
6. Ratio of Ingredients.
7. Water.
8. Amount of Water to Effect Solution.
9. Heat Used to Effect Solution.
10. Method of Preparation.
11. Solution of Sodium Carbonate.
12. Solution of Chlorinated Lime.
13. Appearance of Finished Product.
14. Odor of Finished Product.
15. Volume of Finished Product.
16. Taste of Finished Product.
17. Qualitative Tests.
18. Assay.

UNIVERSITY OF WISCONSIN,
DEPARTMENT OF PHARMACY.

THE GERMICIDAL VALUE OF MERCURIC IODIDE ALONE AND ASSOCIATED WITH SOAP.*

BY HERBERT C. HAMILTON.

Mercury salts are well recognized as germicidal agents, but the different salts differ widely in germicidal power depending on several factors. The acid radical with which they are combined, the substances with which they are asso-

* Presented to Section Practical Pharmacy and Dispensing, A. Ph. A., New York meeting, 1919.

* Read before Scientific Section, A. Ph. A., New York meeting, 1920.

ciated, and the conditions of the test are all highly important factors in estimating this value.

In one case, that of mercuric iodide, it is essential that the soluble double salt of mercuric potassium iodide be prepared. The solvent probably does not in any way enhance its value except in making a soluble compound. This is apparently proved by the fact that when molecularly combined, one molecule of the mercury salt with two of potassium iodide, the resulting compound is not affected by further additions of the latter.

By the Hygienic Laboratory Method[1] the values of three of them are as follows:

Mercuric Iodide	5000
Mercuric Chloride	1000
Mercuric Cyanide	125

These values, however, are not absolute even by one method, since variable results are often found when no apparently different technique is applied.

These values, further, are usually very greatly lowered when any medium containing a greater proportion of nutrient material is used. Using plain bouillon containing very much more beef extract and peptone, the coefficients are usually reduced to about one-third the above values.

The term phenol coefficient, therefore, is meaningless, without the qualification which specifies the nature of the medium and the organism, the two essential factors which differentiate the different methods commonly applied.

A recent publication by Widman[2] summarized some experiments in which the phenol coefficients of two germicidal soaps and the U. S. P. Liniment of Green Soap were shown to be so nearly alike that there appeared to be no advantage in using a germicidal soap.

This is also in accord with a statement of Rosenau.[3] "Medicated soaps are for the most part a delusion and a snare so far as any increased germicidal action is concerned; in fact, the addition of phenol and other substances which have the property of combining with soap seems actually to diminish the disinfecting power of that substance." In a later publication,[4] however, he added the statement, "An exception seems to be the soap devised by McClintic in which a mercury salt exists unchanged and active."

Rosenau's statement is corroborated by Stassano and Gompel,[5] who compared three of the salts of mercury and found the iodide to be about 10 times as effective as the chloride, using the same organism—Staphylococcus. While this was mercuric iodide without the soap, the results should not be greatly different when the germicide is incorporated with a good soap base.

The soap referred to by Rosenau was one of the soaps used by Widman and his very low results led to some further investigations.

While there is apparent reason to doubt his statement that a soap with a Hygienic Laboratory Phenol Coefficient of not less than 30 could under any circumstances be found with a coefficient less than 1, the character of the medium and the selection of the organism can greatly influence the results of an assay.

I have since then tested this Mercuric Iodide soap on three occasions, using each time a different strain of the organism he selected, *Staphylococcus aureus*, and

obtained three different results, coefficients of 8, 26 and 33. In each case the work was carefully carried out and checked.

Under normal conditions of testing, namely, the Hygienic Laboratory Method, the coefficients of Mercuric Iodide and the 1 percent Mercuric Iodide Soap are in proportion to their content of the active agent. For various reasons, mostly undetermined, this is by no means invariable, but it is approximately true in most cases and may be regarded as a general statement.

This indicates that under the conditions imposed, the soap is merely a vehicle and adds nothing to the actual germicidal value of the agent. As a vehicle, however, it has obvious advantages, such as its cleansing action, and its alkaline solution. Using *Staphylococcus aureus* as the test organism, however, quite different results were obtained, as follows:

Mercuric Iodide	1100
Germicidal Soap containing 1% Mercuric Iodide	33

In this case, the mercuric iodide, associated with the soap, is 3 times as effective as mercuric iodide alone.

In another test, with a different strain of organism and a different culture medium, careful tests carried out showed results as follows:

Mercuric Iodide	86
Germicidal Soap containing 1% Mercuric Iodide.	26

This result was very surprising and must be regarded with suspicion, although carried out three times.

In both these cases, therefore, the action of the soap is to enhance the value of the agent very materially.

This combination has a number of advantages not possessed completely by either alone.

Soap, although for actual disinfection practically devoid of value,[6] is capable of bringing about a surprisingly high reduction in a bacterial count because of its detergent action. An efficient disinfecting agent associated with it, therefore, possesses a combination of valuable properties. This agent, however, must be high in intrinsic value, on account of the low solubility of the soap. A soap solution, as ordinarily obtained in lather, is not stronger than 1 in 100; the agent must therefore be of sufficiently high value that this further dilution will still be effective. For example, suppose 5 percent phenol were present in the soap, the dilution of phenol in the lather would be 1 in 2000, a dilution devoid of any germicidal value.

Another advantage possessed by the association of an active agent with soap is the fact that the solution is slightly alkaline and as such it promotes penetration both through the fatty film on the skin and into denuded tissue.

Macfarlan[7] summarizes a number of advantages corroborating my own experiments, showing that mercuric iodide has a truly remarkable value in diseases of the skin and mucous membrane.

Incorporating a definite proportion of sodium bicarborate, readily overcomes any corrosive action on metals. This again brings out the fact that the

value of a germicidal agent may often be greatly increased by association with other substances.

The object of this paper is to emphasize three points:

1st. The incorporation of an active germicidal agent with soap, if there is no combination which interferes with either substance, often enhances the values of both.

2d. Germicidal experiments should not be summarized in terms of phenol coefficients without specifically stating in what respects the assay methods differ from the accepted methods of obtaining the phenol coefficient.

PROTOCOLS OF GERMICIDAL TESTS

Sample—Germicidal Soap.
Method—A. P. H. A.
Organism—*B. typhosus.*

Sample.	5.	20 min.	Phenol.	5.	20 min.
1–2000	—	—	1–80	—	—
2500	—	—	90	—	—
3000	+	—	100	—	—
3500	+	—	110	+	—
4000	+	+	120	+	—
1–2700	—	—	1–100	—	—
3000	+	—	110	+	—
3300	+	—	120	+	—
3600	+	—	130	+	—
4000	+	+	140	+	—

Coefficient 26.4.

Sample—Germicidal Soap.
Organism—*Staph. aureus.*
Medium—Hygienic Laboratory.[1]

Soap.	2½.	15 min.	Phenol.	2½.	15 min.
1–400	+		1–50	—	
600	+		60	—	
800	+		70	—	—
1000	+		80	+	—
1200	+	+	90		—
1400	+	+	100		+
1600		+			
1800		+			
1–100	—		1–50	—	
200	—		60	—	
300	—		70	—	—
400	+		80	+	—
500	+	—	90		—
600	+	—	100		+
800		—			
1000		+			
1200		+			
1400		+			

$$\text{Coefficient} = \frac{300}{70} + \frac{900}{90} = 7.$$

[1] Adjusted to + 1.5 acidity.

Sample—Green Soap.
Organism—*Staph. aureus.*
Medium—Plain Bouillon.

	2½.	12 min.	Phenol.	2½.	15 min.
1–20	+		1–70	—	
30	+		80	+	—
40	+		90	+	—
50	+	+	100	+	+
60		+	110		+
70		+			
80		+			

Coefficient less than 0.3.

Organisms—*Staphylococcus aureus.*
Medium—Plain Bouillon.
Substance—Mercuric Iodide as Mercuric Potassium Iodide.

	5.	20 min.	Phenol.	5.	20 min.
1–80000	—	—	1–80	—	—
100000	+	—	90	+	—
150000	+	+	100	+	+
200000	+	+			
250000	+	+			

Coefficient 1100.

Organism—*Staphylococcus aureus.*
Medium—Plain Bouillon.
Substance—Mercuric Chloride Phenol.

	5.	20 min.	Phenol.	5.	20 min.
1–10000	—	—	1–80	—	—
50000	—	—	90	+	—
20000	—	—	100	+	+
30000	+	—	110	+	+
40000	+	+			

Coefficient 333.

Organism—*Staphylococcus aureus.*
Medium—Plain Bouillon.
Substance—Germicidal Soap.

	5.	20 min.	Phenol.	5.	20 min.
1–2000	—	—	1–80	—	—
2500	—	—	90	+	—
3000	+	—	100	+	+
3500	+	+	110	+	+
4000	+	+			

Coefficient 33.

3d. Staphylococcus is a logical organism to use for such tests, but on account of the variation in resistance of different strains of the organism, no result can be taken as final and invariable.

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RESEARCH LABORATORY,
PARKE, DAVIS & COMPANY.

THE EFFECT OF VARIOUS IONOGENS ON THE TIME PERIOD REQUIRED FOR THE GELATION OF COLLOIDAL SILICIC ACID.*

BY LOUIS F. WERNER.

The retarding and accelerating effect of ionogens upon the setting of (sol) colloidal silicic acid has been the subject of study of quite a number of investigators in the past, but the results achieved have not always been harmonious or comparable. This was due, apparently, to the fact that the various investigators were experimenting with colloidal silicic acid of various concentrations and varying degrees of hydration.

It was endeavored therefore, in the work undertaken, to work with a pure silicic acid of uniform concentration, and of like hydration.

METHOD OF PREPARATION USED IN MAKING THE COLLOID.

The colloidal silicic acid was made by diluting 50 mils of commercial sodium silicate solution (density 40° Beaumé) with 150 mils of distilled water, and then adding this solution, with constant stirring, to 50 mils of pure concentrated hydrochloric acid. The mixture was dialyzed, using a "Parlodion" bag, made by coating the inside of a 350-mil Erlenmeyer flask with an ether alcohol solution of that substance, and separating from the flask after the solvent had vaporized.

The dialysis was carried out in a tall cylindrical glass vessel holding about 3 liters of water, and wide enough to prevent the dialyzing capsule from touching the sides. The water (distilled) was changed after 3, 3½, 15, and 6 hours. The total time of dialysis was therefore 29.5 hours, and this method was rigidly followed in each batch of colloidal silicic acid prepared. The product secured in this way was but slightly translucent, and gave but a slight opalescence with silver nitrate solution. Further dialysis to remove this slight trace of chloride always resulted in gelation.

EXPERIMENTAL METHOD.

The method of procedure was to pipette out the required amount of ionogen solution, dilute with the required amount of distilled water to make 4 mils of the mixture, and then 4 mils of colloid solution added, thoroughly mixing after each addition. The tubes were then allowed to stand until no evidence of flow was noted upon inverting the tube. This point was taken as the end-point.

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The author does not claim any great numerical accuracy for the work, as there were certain factors which prevented absolute accuracy, but the results achieved in many cases were of great significance.

As many salts suffer hydrolysis upon solution in water, giving either an alkaline or acid solution, it was thought fundamental that the effects of acids and bases be first investigated, as the results would probably throw some light upon the behavior of these salts with colloidal silicic acid.

In the following tables, the first column gives the concentration of the ionogen in the final mixture, and the remaining columns, the time in days, hours or minutes, as noted in the table. The "check" was merely the average time taken for three tubes containing 4 mils of distilled water and 4 mils of the colloid to set.

EFFECT OF VARIOUS ACIDS AT DIFFERENT CONCENTRATIONS UPON THE TIME OF SETTING OF COLLOIDAL SILICIC ACID.

Concentration (normal).	Time in days. H_2SO_4.	HCl.	HNO_3.	CH_3COOH.
0.5000	10.0	19.0	8.0	39.6
0.4000	12.5	22.3	8.7	39.6
0.3000	14.8	30.0	9.9	39.6
0.2000	17.0	38.0	11.8	39.6
0.1000	23.0	42.0	14.0	31.6
0.0200	23.0	37.0	18.3	20.0
0.0100	20.0	21.0	16.6	17.0
0.0010	14.0	17.0	9.6	8.6
0.0005	11.5	9.6	8.8	7.6
Check	7.0			

The results show that the general effect of acids upon colloidal silicic acid is to peptyze it, but there is a difference in behavior in the case of the highly ionized and the slightly ionized acids. Thus in the case of sulphuric, nitric and hydrochloric acids, the greatest peptyzing effect is not at the highest concentration, but at a middle point. In the case of acetic acid, however, the greatest peptyzing effect of the acid was at the highest concentration of the acid.

EFFECT OF BASES OF VARIOUS CONCENTRATIONS UPON THE TIME OF SETTING OF COLLOIDAL SILICIC ACID.

Concentration (normal).	Time in days. NaOH.	NH_4OH.
0.5000	30.7	x
0.4000	28.0	x
0.3000	28.0	x
0.2000	32.3	x
0.1000	68.7	x
0.0200	x	x
0.0100	x	x
0.0010	x	x
0.0005	82.0	65.0
Check	7.5	

NOTE.—(x) signifies that the contents of tube did not set after 100 days.

From the above results it is apparent that sodium hydroxide had its greatest peptyzing effect at a very slight concentration, above and below which this effect

diminishes. Little can be said of ammonium hydroxide, due to the failure of the tubes to set, but it is apparent that it has a greater peptyzing effect than sodium hydroxide.

EFFECT OF POTASSIUM CHLORIDE UPON ACID AND ALKALINE SOLUTIONS OF COLLOIDAL SILICIC ACID.

Concentration (normal) KCl.	Time in days.			
	CH_3COOH.	HCl.	NaOH.	NH_4OH.
0.5000	36.3	31.4	1.5	At once
0.3750	36.3	31.4	3.2	At once
0.2500	36.3	31.4	5.4	3 minutes
0.1250	36.3	31.4	10.5	246 minutes
0.0500	36.3	31.4	13.8	966 minutes
0.0375	36.3	31.4	17.5	x
0.0250	36.3	31.4	18.5	x
0.01250	36.3	31.4	x	x
0.0025	36.3	31.4	x	x
0.0005	36.3	31.4	x	x
Check	36.0	31.2	x	x

NOTE.—(x) signifies that the contents of tube did not set after 100 days.

In this set of experiments, the strength of the alkali or acid was of quarter normal strength in each tube, after the final mixture was made, the strength of the potassium chloride alone varying. The check consisted of 4 mils of half normal alkali or acid mixed with 4 mils of colloidal silicic acid.

The results showed that in acid solution, both of strong and weak acids, the time of setting was not affected by the addition of potassium chloride; in the case of bases, however, the time of setting was reduced, this being true for a weak and a strong base. The significance of these results is that it throws some light upon the behavior of salts which are hydrolyzed upon solution in water with colloidal silicic acid. As some of the salts used in the following experiments were of this type, these results were of great assistance in explaining the abnormal behavior of these compounds with the colloid.

EFFECT OF THE VARIOUS POTASSIUM SALTS UPON THE TIME OF SETTING OF COLLOIDAL SILICIC ACID.

Normal concentration of salt.	Time in hours.			
	KI.	KNO_3.	K_2SO_4.	KBr.
0.50000	6.0	5.5	5.3	5.9
0.37500	8.0	7.5	8.3	8.8
0.25000	10.0	9.0	12.3	10.2
0.12500	16.0	11.5	15.3	15.9
0.05000	20.0	15.5	24.3	29.9
0.03750	22.0	20.5	28.3	31.9
0.02500	27.0	21.5	38.3	34.9
0.01250	33.0	21.5	39.2	36.9
0.00500	40.1	24.3	46.2	51.8
0.00375	45.2	28.3	48.3	54.8
0.00250	49.1	63.3	64.6	59.0
0.00125	49.1	87.3	73.3	70.9
0.00063	62.7	94.3	80.5	70.9
0.00025	76.0	112.3	89.3	82.8
Check	172.0			

The results show that the effect of the potassium salts is to shorten the time of gelation of the colloid, the effect being greatest at the greatest concentration.

EFFECT OF THE CHLORIDES OF THE VARIOUS METALS UPON THE TIME OF SETTING OF COLLOIDAL SILICIC ACID.

Molal concentration of salt.	Time in hours.				
	NaCl.	KCl.	NH_4Cl.	$CaCl_2$.	$BaCl_2$.
0.50000	4.8	3.2	2.5	1.9	3.0
0.37500	7.8	4.2	4.5	4.3	5.0
0.25000	14.8	7.2	5.9	5.9	14.0
0.12500	22.8	14.2	16.5	12.9	18.0
0.05000	23.8	18.2	21.5	16.9	38.0
0.03750	25.3	19.2	24.4	17.9	40.0
0.02500	27.3	20.3	24.5	18.8	42.0
0.01250	29.0	20.5	25.5	19.9	51.0
0.00500	40.0	22.0	27.0	20.9	52.6
0.00375	46.8	40.2	48.9	53.0	53.0
0.00250	50.8	48.9	76.0	53.0	55.0
0.00125	52.0	49.2	101.0	58.7	62.0
0.00063	54.4	43.2	110.0	58.7	62.0
0.00025	63.2	64.2	117.0	65.9	62.0

Molal concentration of salt.	$SrCl_2$.	$MgCl_2$.	$CuCl_2$.	$FeCl_3$
0.50000	2.9	2.3	114.3	x
0.37500	4.9	4.4	108.6	x
0.25000	7.0	7.4	85.0	x
0.12500	19.0	14.3	73.0	x
0.05000	24.0	18.3	70.0	x
0.03750	27.0	24.2	65.0	x
0.02500	32.0	24.8	65.0	x
0.01250	57.0	25.3	63.3	x
0.00500	68.0	25.8	83.0	x
0.00375	75.0	84.0	85.1	x
0.00250	79.0	86.0	97.0	1464.0
0.00125	90.0	90.3	101.0	1056.0
0.00063	91.0	114.0	107.0	384.0
0.00025	92.0	115.3	109.0	336.0
Check	192.0			

The results showed, with the exception of the ferric chloride and the cupric chloride, that the action of the chlorides of the various metals was to accelerate the setting of colloidal silicic acid. The peculiar behavior of the cupric chloride and ferric chloride was undoubtedly due to hydrolysis of these salts.

With the exception of disodium phosphate at high concentrations, the mono- and disodium phosphates behaved very much as did the ordinary neutral salts already experimented with. There was no apparent reason for the jelling effect of the disodium phosphate falling off so rapidly as the concentration decreases, except that hydrolysis of this salt would be more pronounced, and then we would have the peptyzing effect of the alkali. The strong peptyzing effect of the trisodium phosphate is readily explicable, as trisodium phosphate is readily hydrolyzed by water, giving sodium hydroxide and disodium phosphate, so that the results were analogous to those secured in the work upon sodium hydroxide.

EFFECT OF THE THREE SODIUM PHOSPHATES UPON THE TIME OF SETTING OF COLLOIDAL SILICIC ACID.

Molal concentration of salt.	Time in hours.		
	NaH_2PO_4.	Na_2HPO_4.	Na_3PO_4.
0.50000	5.5	2 minutes	x
0.37500	6.0	3 minutes	x
0.25000	6.7	6 minutes	60.0
0.12500	7.5	2.6	84.0
0.05000	8.5	3.2	432.0
0.03750	9.5	3.7	1704.0
0.02500	12.6	12.2	1956.0
0.01250	15.6	39.2	1956.0
0.00500	23.6	43.2	1860.0
0.00375	47.0	48.2	1812.0
0.00250	64.0	69.2	1716.0
0.00125	71.0	71.3	1140.0
0.00063	84.0	87.3	732.0
0.00025	95.0	95.2	106.0
Check	172.0		

EFFECT OF THE THREE SODIUM CITRATES UPON THE TIME OF SETTING OF COLLOIDAL SILICIC ACID.

Molal concentration of salt.	Time in hours.		
	Monosodium.	Disodium.	Trisodium.
0.50000	40.2	2.1	1 minute
0.37500	40.2	2.1	2 minutes
0.25000	40.2	2.7	3 minutes
0.12500	40.2	2.7	4 minutes
0.05000	40.2	3.1	9 minutes
0.03750	40.2	3.3	11 minutes
0.02500	40.2	4.0	13 minutes
0.01250	40.2	5.0	23 minutes
0.00500	40.2	7.1	1.0
0.00375	40.2	12.0	2.0
0.00250	40.2	13.0	3.0
0.00125	40.2	24.0	5.0
0.00063	40.2	29.0	11.0
0.00025	40.2	31.6	16.0
Check	156.7		

The results showed that the di- and trisodium citrates had a powerful gelation effect upon the colloid, which effect decreased with the concentration. The effect of the monosodium citrate was analogous to the condition where we have an acid in the presence of a salt, all the tubes set in the same time, as was the case upon adding KCl to acid solutions.

In the work upon the acetates of the various metals, it was found that these salts exceeded all other ionogens in their jelling effect upon the colloid. With the exception of mercuric acetate, this effect varied with the concentration, but in this case the mercuric acetate had the greatest effect at low and high concentrations. Probably this exceptional behavior is due to hydrolysis, although the salts of mercury are peculiar in themselves as compared with those of other metals.

The effect of the inorganic salts of the "heavy metals" showed the greatest jelling effect was at a medium concentration, and was least at high or low concen-

EFFECT OF THE VARIOUS ACETATES UPON THE TIME OF SETTING OF COLLOIDAL SILICIC ACID.

Molal concentration of salt.	Time in minutes.						
	$Cu(Ac)_2$.	$Hg(Ac)_2$.	$Pb(Ac)_2$.	$Ba(Ac)_2$.	$Ca(Ac)_2$.	KAc.	$Mg(Ac)_2$.
0.50000	...	....	1/30	12	9	33	11
0.37500	...	....	1/20	14	15	38	13
0.25000	...	....	1/15	15	17	38	17
0.12500	1/12	1258	5	18	21	42	22
0.05000	1/2	1468	27	26	27	48	31
0.03750	3	1678	30	32	32	53	38
0.02500	7	2548	42	38	39	63	46
0.01250	32	2668	81	54	59	152	71
0.00500	97	3328	179	104	109	158	100
0.00375	167	3808	238	139	134	249	136
0.00250	186	2808	305	145	168	293	160
0.00125	246	2548	500	174	309	413	203
0.00063	303	2008	620	300	429	563	256
0.00025	418	1888	920	405	969	893	421
Check	10010						

EFFECT OF THE SALTS OF THE "HEAVY METALS" UPON THE TIME OF SETTING OF COLLOIDAL SILICIC ACID.

Molal concentration of salts.	Time in hours.		
	$HgCl_2$.	$CuCl_2$.	$Pb(NO_3)_2$.
0.50000	...	114.3	51.0
0.37500	...	108.6	47.1
0.25000	...	85.0	35.0
0.12500	127.3	73.0	32.0
0.05000	119.3	70.0	15.1
0.03750	112.3	65.0	16.0
0.02500	99.3	65.1	18.0
0.01250	87.3	65.0	20.1
0.00500	75.3	79.6	30.1
0.00375	63.4	85.0	34.1
0.00250	44.4	97.0	39.0
0.00125	43.4	101.0	51.1
0.00063	67.3	107.0	63.0
0.00025	79.4	109.0	75.0
Check	100.1		

trations. These results are analogous to the results obtained in the work with strong acids, and as these salts are hydrolyzed in aqueous solution, this peculiar behavior must be due to the free acid formed in this hydrolysis.

The accelerating effect of the alkali metal salts of organic acids upon the time of gelation of silicic acid was very marked, and grew greater as the concentration of the salt increased. A peculiar result was the great effect of the carbonates and bicarbonates at high concentration, and the great falling off of this effect at lower concentrations. There was no apparent reason for this phenomenon, except it was that the carbonate and bicarbonate of sodium are hydrolyzed at these lower concentrations, giving a solution of sodium hydroxide and carbon dioxide, and then we have the peptyzing effect of the sodium hydroxide, and not the effect of the carbonate and bicarbonate. The jelling effect of the neutral salts of the organic acids; citrates, acetates, carbonates, lactates and oxalates, can only be explained as being due to the carboxyl group present in each.

EFFECT OF THE ALKALI METAL SALTS OF THE ORGANIC ACIDS UPON THE TIME OF SETTING OF COLLOIDAL SILICIC ACID.

Molal concentration of salt.	Time in minutes.				
	Na_2CO_3.	$NaHCO_3$.	$KNaC_4H_4O_6$.	Li lactate.	$K_2C_2O_4$.
0.50000	7	5	9	36	9
0.37500	25	8	15	42	19
0.25000	595	35	23	44	24
0.12500	66 days	56	28	49	27
0.05000	x	x	36	72	39
0.03750	x	x	39	82	47
0.02500	x	x	55	92	59
0.01250	x	x	78	137	69
0.00500	x	x	153	257	144
0.00375	x	x	243	377	264
0.00250	x	x	454	737	384
0.00125	x	x	634	1067	564
0.00063	67 days	47 days	814	1277	744
0.00025	2.5 days	13.9 days	1354	1457	1284
Check	9403 (6.5 days)				

The results obtained with these salts and phosphates have caused some doubts to arise in the author's mind as to the correctness of the hypothesis that the setting of (sol) colloidal silicic acid is due to hydration. The organic salts mentioned above contain most of the well-known diuretics, and as these act primarily by extracting water from the tissues, and *in vitro* prevent the swelling of gelatin, and as silicic acid and gelatin are typical examples of a certain class of colloids, there are but two rational conclusions to be drawn: that these salts act directly opposite in the case of silicic acid to the observed effect upon organic colloid, *i. e.*, in the case of gelatin they dehydrate, and in the case of silicic acid they hydrate; or we must assume that the setting of colloidal silicic acid is a dehydration phenomenon.

It would be quite remarkable that this difference in behavior should be so consistently opposite throughout a whole series of salts such as these, so that the logical conclusion would seem to be that the setting of (sol) colloidal silicic acid is caused by dehydration. Synuresis, which takes place after jelling of silicic acid, would apparently support this hypothesis, although of itself it does not constitute any strong evidence.

SUMMARY.

The results of the work showed that acids had a very powerful peptyzing effect upon sol colloidal silicic acid, but in the case of the strong acids this effect was strongest at medium concentrations. Alkalies also had a strong peptyzing effect; in the case of the strong alkalies the peptyzing effect was greatest at medium to low concentrations, but in the case of the slightly ionized base, the peptyzing effect was great in all but low concentrations.

The effect of salts in the presence of both weak and strong acids was nil but hastened the setting of the colloid in the presence of both strong and weak bases.

The potassium salts of various negative radicals were all found to decrease the time required for the gelation of the colloidal silicic acid, but the time required did not differ greatly in the case of the various salts.

The chlorides of various metals, with the exception of ferric chloride and cupric chloride, were found to lessen the time required for the gelation of the colloid, although the difference in basic radical caused no great difference in this period.

The two acid sodium phosphates were found to cause silicic acid to jell very rapidly, but the trisodium phosphate at strong and medium concentrations had a strong peptyzing effect. The di- and trisodium citrates accelerated the setting of the colloid greatly, the effect decreasing with the concentration, but in the case of the monosodium citrate, the time required for the setting of the colloid was the same at all concentrations.

The acetates of various metals had the greatest jelling effect, notably the acetates of the "heavy metals," excepting mercury. The effect of the inorganic salts of the "heavy metals" was slight.

The alkali salts of the various organic acids had an extremely powerful accelerating effect upon the setting of colloidal silicic acid, although the carbonates and the bicarbonates had a peptizing effect in medium to dilute concentrations.

CINCINNATI, OHIO.

THE DETECTION OF WOOD ALCOHOL IN BEVERAGES, ETC.*

BY JOSEPH L. MAYER.

Complying with the request of the New York City Health Commissioner, many local pharmacists are now dispensing whiskey on physicians' prescriptions, and due to the number of deaths which resulted recently from drinking beverages containing wood alcohol, many inquiries are being made for a test to detect this dangerous adulterant.

The test for the detection of methyl in ethyl alcohol, found on page 36 of the United States Pharmacopoeia (which is practically that of Denigès), is not of much value when applied to beverages, etc., as sugar and glycerin in the distillate will give a weak reaction, indicating the presence of methyl alcohol where none occurs.

The method, which was official in the U. S. P. VIII (page 34), oxidation of the liquid with a heated copper spiral, is that of Scudder and Mulliken (*Amer. Chem. Jour.*, 21, 266), and is far from being dependable, due to the fact that, as noted by Deghuee (U. S. Dept. of Agr., Bureau of Chemistry, *Bull.* 99, 53) and others, ethyl alcohol will form traces of formaldehyde if the oxidation is carried too far and, thus methyl alcohol might be indicated where none was present.

The suggestion of Sieker (*The Druggists Circular*, March 1901, 65), to heat the alcoholic liquid and then use the heated copper spiral to oxidize the vapor above the liquid and note whether there is produced an irritating vapor, which acts upon the mucous membrane and is characteristic of formaldehyde, would be satisfactory were it not for the fact that pure ethyl alcohol very frequently responds faintly to this test.

Without going any further into the subject, it is sufficient to say that all of these copper spiral tests as now applied are unsatisfactory.

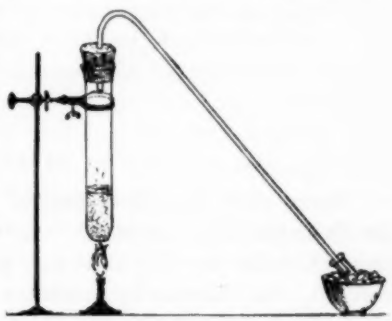
Skilled analysts recognizing this fact employ the Trillat test (*Analyst*, 24, 13, 211–212, 1899); that of Riche & Bardy (Allen's "Commercial Organic Analysis,"

* Read before the Kings County Pharmaceutical Society, February meeting, 1920.

3rd Edition, Vol. 1, p. 80); and the refractometric method of Leach and Lythgoe (*Jour. Amer. Chem. Soc.*, 27, 964, 1905), for the detection and determination of methyl alcohol in beverages, etc. These methods are thoroughly reliable but are not suitable for the use of pharmacists, as even trained chemists regard them as tedious and time-consuming.

After a thorough trial of the numerous tests suggested for the detection of methyl alcohol in beverages, etc., I have adopted the following with excellent results. The method is in effect that of Hinkel (*Analyst*, 33, 417), and is applied by me as follows:

Into a test-tube about 8 inches long and one inch in diameter, capable of being connected to a Liebig condenser by means of a cork and bent tube, add a piece of pumice stone which has previously been heated to a white heat and plunged into water: One mil of the suspected liquid; 0.800 gramme ammonium persulphate; 3 mils of 20 percent sulphuric acid; and 16 mils of water. Connect with the condenser and distil, heating carefully to prevent foaming. Reject the first 4 mils of distillate and then collect three succeeding portions of 2 mils each in four-inch test-tubes. To each of these three add a few drops of one percent morphine sulphate solution and, after mixing thoroughly, underlay with strong sulphuric acid by pouring the acid carefully along the inner wall of the test-tube to form a substratum. The presence of methyl alcohol in the material is indicated by the formation of a violet ring at the zone of contact in any or all of the three tubes. If the tubes are examined in bright daylight and held against a white background, such as a sheet of white paper, the coloration appears much sharper. If the violet ring does not appear at once allow the tubes to stand about ten minutes, reëxamine them and, if necessary, gently rotate them so as to form a slight admixture of the two layers. In the absence of methyl alcohol there will be formed a light brown or orange-colored ring at the zone of contact, which is due to the acetaldehyde formed by the oxidation of the ethyl alcohol.



This Apparatus May Be Used in Place of a Liebig Condenser.

This test, applied as above to various whiskies, brandies, gins, wines, spirit of camphor, chloroform liniment, tincture of vanilla, essence of lemon, ethyl alcohol, and other substances known to be free from methyl alcohol, produced a negative result in every instance.

One percent of methyl alcohol was then added to each of the samples, which, being subjected to the test, yielded a very positive reaction.

In originally applying the test to samples of ethyl alcohol, free from methyl alcohol, the first two mils of distillate always gave a faint rose-red reaction and, as a result, it was decided to reject the first 4 mils. The original method calls for a one-half of one percent solution of morphine hydrochloride. For the sake of convenience a one percent solution of morphine sulphate is employed.

The test is dependent upon the fact that methyl alcohol is oxidized to formaldehyde, which is distilled over and then identified by the Marquis reaction, which

is that official in the U. S. P. for the identification of morphine (U. S. P., page 276). It was found that by employing a small piece of pumice stone, previously heated to a white heat to keep it from floating, bumping was prevented and the liquid distilled quietly.

AN IMPROVISED CONDENSER.

In view of the fact that not all pharmacists have access to a Liebig or other form of water-jacketed condenser, I carried out a series of experiments to ascertain whether the test could be made without the use of such a condenser, by having the long arm (about 25 inches) of the bent tube extend into the test-tube receiver, which was placed in water containing ice.

The three fractions of 2 mils each were tested, and in every case where a positive reaction was obtained by employing the Liebig condenser an equally characteristic color was produced by this apparatus, thus indicating that if the water-jacketed type of condenser is not at hand, the simple expediency of using a long glass tube is satisfactory.

The above method of testing for methyl alcohol in beverages and pharmaceuticals is trustworthy, easily applied and rapid.

RESEARCH AND ANALYTICAL LABORATORIES
OF THE LOUIS K. LIGGETT COMPANY.

VINEGAR BEE.*

BY LEASURE K. DARBAKER.

Some years ago there existed a fad for making vinegar artificially, by using the "vinegar bee," molasses, sugar and water. This fad has returned, probably brought back by the national prohibition. Many enterprising firms are advertising the vinegar bee under various names as vinegar bees, beer bees, wine bees, Australian bees, California bees and other designations. Extravagant claims are made for this product and a fancy price is asked, which is much out of proportion to the original cost and value. Some years ago the writer studied this peculiar collection of organisms known as the "vinegar bee" and submits the following account of his results, which are not complete, due to the loss of some of the notes on this work.

Vinegar bees consist of a mixture of various organisms, held together in masses by the organism's mucilaginous sheath and also by the filaments of the mold, with which the bacteria and yeasts are mixed.

Our cultures were obtained from various sources and were grown as follows: About 15 Gm. of the dried bee or 30 Gm. of the moist bee were added to 1 l. of water, in which had been mixed one tablespoonful of molasses. The cultures were placed in a wide-mouth vessel, covered with gauze, and kept at room temperatures and were fed every morning by adding to each culture one teaspoonful of sugar. When a light-colored molasses and white sugar were used a pale-yellow colored vinegar was produced, but when dark-colored molasses and brown sugar were used, the vinegar was of a dark brownish color.

In about 10 days the greatest amount of alcohol was obtained and in about

* Read before Pittsburgh Branch A. Ph. A., January 7, 1920.

18 days the greatest amount of acetic acid had been formed. After this time the bees slowly died, probably killed by the excessive amount of acetic acid and other products.

Cultures were successfully made in alcohol 4 percent and acetic acid 2 percent which had been added to a filtered solution of 50 Gm. of yeast boiled in 1 l. of water. This prepared food caused a more rapid growth than the water, sugar and molasses. Cultures were also successfully made on wort gelatin.

The organisms concerned in this production of alcohol and acetic acid have a great tendency towards pleomorphism and it was found that pure cultures of some of the organisms, when subcultured a number of times, produced involute forms.

In practically all the vinegar bees examined there were present two main organisms:

1. *Saccharomyces tyrisormis.*
2. *Bacterium vermiformæ.*

Other microörganisms constantly found and isolated were:

1. *Mycoderma aceti.*
2. *Mycoderma vini.*

The *Saccharomyces tyrisormis* is one of the many wild yeasts which are constantly present in the air, while *Bacterium vermiformæ* is probably a sub-species of *Bacterium pasteurianum.* *Mycoderma aceti* should be classed separately as it probably is one of the involuted forms of Saccharomyces and shows this tendency from culture to culture. *Mycoderma vini* is also one of the involute forms and is an aerobic yeast-like fungus. The *Mycoderma aceti* cohere by their mucilaginous sheath and form a film called the mother of vinegar, in which are embedded various other organisms. These organisms are strictly aerobic.

If there is much sugar in the fluid in which the *Mycoderma vini* is growing, it will form a film, which is tough and elastic. The growth of the vinegar-producing organisms practically ceases in an alcohol content of 10 percent and 14 percent kills them. Their growth is inhibited when the acetic acid content is 5 percent and they are killed when it is over 12 percent.

Mycoderma aceti which form the membranous pellicle on the surface are best subdivided into:

Bacterium aceti, which appear as rod-shaped organisms with a constricted middle and lie in parallel chains in the surface film. When grown in pure culture, they appear as smooth, moist, veined colonies, in about 24 hours at 34° C. When grown on wort gelatin, the colonies are elevated, rounded, grayish, waxy and with an entire margin, many appearing somewhat star-shaped in outline.

Bacterium pasteurianum are larger than the *Bacterium aceti* and are thread-like; many are swollen, showing involution forms, one of which probably is the *Bacterium vermiformæ.* In pure cultures they show a dry wrinkled film. On wort gelatin the colonies are rugose and the organisms remain in chain-like formation. The sheath stains blue with Lugol's solution, while the *Bacterium aceti* sheath stains brown. These organisms have a very large mucilaginous sheath.

Bacterium Kutzingianum resembles *Bacterium aceti* but occurs singly or in pairs. Their growth is similar to that of *Bacterium aceti* with these differences:

They show a creeping growth up the side of the container and on gelatin wort grow as a shiny colony. The bacterium sheaths stain blue with Lugol's solution.

Bacterium xylinum was found in several specimens; they grow as a thick tough leathery film. The sheath stains blue with Lugol's solution. This organism may cause the vinegar to lose its sour taste if cultured too long. Its growth is inhibited by shutting off the supply of oxygen.

Bacterium acetigenum is very motile and will not liquefy wort gelatin and is found in nearly all mother of vinegar.

Bacterium oxydans is very motile and will not liquefy wort gelatin.

Bacterium industrius was found in one specimen. It is very motile.

Bacterium vermiformæ is characterized by having a swollen sheath.

Bacterium termo is very short and motile. The cultures have a damp, musty odor and grow as grayish wrinkled films.

Saccharobacillus Pasteurianus was found in hop cultures only, so it is unlikely that it is a normal constituent of the vinegar bee. It is an alcohol producer and if grown too long will give a very bitter taste to the culture media.

Several specimens showed organisms resembling *Bacillus viscosus* and *Bacillus Acidi lactici*, but unfortunately were not isolated.

Mycoderma cerevisiæ grows as a dull gray wrinkled colony. The cells contain 1 to 3 highly refractive granules. This organism did not produce fermentation and it was strictly aerobic.

One of the molds found in practically every specimen was *Penicillium glaucum*. This organism will aid acetic fermentation in sugar solutions.

It is probable that some of the other yeasts concerned in vinegar production and found in vinegars could be isolated from vinegar bees. The chief ones are: Primary—*Saccharomyces pastorianus* (*Mycoderma pastorianus*), *S. ellipsoidus*, and *S. anamalus*. Secondary—*Saccharomyces marxianus*, *S. exiguus*, *S. Ludwigii* and *S. membranaefaciens*. Organisms which cause the same results as the vinegar bee were cultivated but unfortunately not isolated, by boiling corn meal for two hours under 15 pounds steam pressure, mixing the cooled corn meal with molasses and exposing to the air, when in several days copious growths were obtained; also by exposing solutions of bakers' yeast in molasses to the air.

Vinegar bees are a mixture of organisms probably coming from the air and may contain harmful as well as the desired vinegar-forming organisms. Great care should be exercised in obtaining cultures and in their preparation to exclude all pathogenic organisms. It was found that all the pathogenic organisms which will grow in vinegar solutions are anaerobic.

INORGANIC INCOMPATIBILITIES OF ORGANIC DRUGS.*

BY CARL BRAUBACH.

The occurrence of a crystalline sediment in a proprietary preparation, in connection with the bursting of numerous bottles, led the proprietor to ask for advice as to its nature and the best method of eliminating it, as he thought this was the cause of the bursting.

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*Read before the Section on Practical Pharmacy and Dispensing, A. Ph. A., New York meeting, 1919.

The tanks in which the preparation was aged were found to be lined with a hard, brown crystalline coating. A similar material was deposited in bottles of the preparation, which had been standing for some time. This coating gave 76 percent of ash and consisted principally of magnesium phosphate, some calcium, a small amount of sulphates and traces of iron and organic matter. The medicine was prepared from vegetable drugs, principally roots, and the only chemical added was sodium bicarbonate. The menstruum was 20% alcohol.

A chemical analysis of the ash of the several drugs used in the preparation of the liquid brought out the fact that the ash of yellow dock contained a large amount of magnesium, evidently present in the drug as the soluble magnesium oxalate. The ash of other drugs used contained soluble phosphates. These reacted in the finished alkaline mixture and on standing produced a dense, crystalline precipitate, consisting mainly of magnesium phosphate. (The precipitate was exhibited.)

The only way to obviate this objectionable feature of the preparation seems to be to change the formula by substituting some other drug for the yellow dock, which contains the magnesium.

The matter is brought forward in order to direct attention to the possibility of the occurrence of an inorganic incompatibility between organic drugs. This form of incompatibility may be easily overlooked and prove the cause of much annoyance. The remedial of the origin of trouble caused by the formation of the crystalline sediment could, of course, not be connected with the bursting of the bottles.

Although the fact that sodium bicarbonate solutions have a tendency to decompose with the liberation of free carbon dioxide is commented on in the National Dispensatory, by Hager, by the French Codex, and other pharmaceutical authorities, it seems to be lost sight of, sometimes, by pharmacists in devising formulas. The manufacturer of this proprietary medicine had disregarded the advice of a pharmacist to substitute an equivalent quantity of the monocarbonate for the bicarbonate in his preparation. While I felt confident that the decomposition of the bicarbonate was the cause of the trouble, I made sure of this by a process of elimination. The gas contents of some of the bottles, showing pressure, were examined first and the gas was identified as carbon dioxide.

The fact that the explosion did not occur for some months after the preparation was bottled and there was no liberation of gas in the freshly prepared medicament proved that the gas had not been liberated by a direct chemical reaction between the ingredients. The contents of the exploded bottles contained numerous bacteria and also spores, despite the presence of 20 percent alcohol; this indicated a possibility that they were in some way the source of the gas. It was possible, however, to demonstrate bacteriologically that the presence of the bacteria and spores was not responsible for the bursting and, also, that the bicarbonate alone was to blame for the explosions.

RESEARCH LABORATORIES OF THE WM. S. MERRELL COMPANY.

LAC FERMENTATUM N. F.—FERMENTED MILK N. F.*

BY JOSEPH W. E. HARRISSON AND IVOR GRIFFITH.

Prohibition legislation has brought into the lime-light many preparations which had previously but little claim for popular attention. Among these might be mentioned beverages similar in nature to the subject of our paper, namely, koumiss, kephir, matzoon, etc. While there had been many investigations into the character of these so-called health beverages they did not, at the time, gain much attention, and very little excitement was created when koumiss was stated to contain over two and one-half percent of alcohol. Now, however, the attitude is different; any preparation easily made and containing alcohol is considered worthy of notice, even by the laity. The object of this paper is not to call particular attention to a palatable alcoholic drink, because this is indeed not a very palatable beverage, but rather to submit definite data in regard to the nature of the finished product. Incidentally, fermented milk made according to the N. F. IV is not comparable with koumiss since the latter, if genuine, is made from mare's milk without the addition of saccharose, and using a lactic as well as an acetic ferment. Mare's milk is used because of its affluence of lactose, containing as it does from 6 to 7 percent of that sugar, while cow's milk contains usually from 5 to 6 percent, and often less.[1] Fermented milk is made with cow's milk, saccharose, and compressed bakers' yeast. It might be stated here that ordinary bakers' and brewres' yeasts have no pronounced influence on lactose.[2] The yeasts used in the production of native European drinks, like koumiss and kephir, are the so-called lactose yeasts belonging to the Torulaceae which ferment lactose with the production of ethyl alcohol.

In the following recorded tests, material was used which had been prepared strictly in accord with the present N. F. formula and stored in a refrigerator. The cow's milk used in its manufacture was examined, and it was found that better results were obtained with the use of non-pasteurized or unsterilized milk. Hence our suggestion that the N. F. specify fresh cow's milk.

METHOD OF ANALYSIS.

Alcohol.—The alcohol was estimated by distilling 200 or 250 mils and collecting 100 mils of distillate. Occasionally it was necessary to redistil; although precaution had been taken in advance to neutralize any volatile acidity, the first distillate was turbid, but the second condensate was always clear. The alcohol content was then estimated by the usual method, calculating from its exact specific gravity. Checks were always made on these determinations and the average computed, even though the variance was generally very negligible.

Polarimetric Readings.—These were established in the usual manner after the clarification of the sample with alumina cream or by the lead method. The samples were all read at the uniform temperature of 25° C. The only important information obtained from these data was to establish the fact, that the lactose

*Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., New York meeting, 1919.

[1] Handbook of Sugar Analysis, Brown, pp. 249 and 714.

[2] Tymowski's Analysis of Koumiss, p. 12.

remained apparently unaltered throughout the period of fermentation, and that all the carbonic acid gas and the alcohol are supplied by the saccharose.

Reducing Sugars.—These were obtained by the gravimetric method, using Fehling's solution, and collecting the oxide on asbestos in a Gooch crucible. For the purpose of legibility and better means of comparison the data is given in tabular form.

Samples.	Polarimetric readings.	Reducing sugars by Fehling's solution, gravimetric method.	Alcohol. Percent.
Fresh Milk	Plus 14	2.15 as invert 2.57 as lactose	None
After addition of saccharose	Plus 27.7	3.52	None
After 6 hours	.....	3.52	0.56
After 24 hours	Plus 13.6	2.28	1.74
After 48 hours	Plus 13.8	2.28	1.97
After 72 hours	Plus 14.3	2.5	1.98
After 96 hours	Plus 13.3	2.72	1.99
After 120 hours	Plus 13.3	2.55	2.02
Sample four weeks old	.....	2.47	2.03

In regard to the palatability of this beverage we have been very much puzzled, for it assuredly has no pleasant taste, and it is one that lingers long. The predominating taste is that of yeast, of which it unquestionably contains too much. The writers believe that half, or less, of the prescribed yeast would suffice and produce a liquid that might possess a better claim to the title of beverage. As now prepared, there is no great likelihood that the laity will make this fermented drink at home for popular consumption, nor are we convinced that it can ever harmonize with the gastric nerves of the invalid. We have tasted some genuine koumiss and it is quite a different product.

LABORATORY OF
CHARLES H. LAWALL,
PHILADELPHIA, PA.

PRESCRIPTION CLINIC.*

BY IVOR GRIFFITH AND ADLEY NICHOLS.[1]

The few prescriptions which will be discussed in the paper are all original prescriptions, and not concoctions merely prepared to stimulate discussion. The greater number of them were received in the dispensary of the Stetson Hospital and a few from students at the College. This statement is made in order to discount the remarks so often heard that most incompatible prescriptions are never met with in actual practice, but simply devised by some imaginative person solely to afford a pretext for arguments and pseudo-scientific discussion. However, it can be said with safety and with some emphasis that not all incompatible prescriptions are impractical and impossible of being compounded, for those of us who have had an extensive prescription dispensing experience know full well that a so-called therapeutically, or even a chemically, incompatible prescription is very often considered valuable medicine by the doctor. After all it is the doctor who

*Presented before Section on Practical Pharmacy and Dispensing, A. Ph. A., New York meeting, 1919.

[1] Department of Pharmacy of the Philadelphia College of Pharmacy.

knows, or should know, what he wants when he prescribes even the oddest combinations. Doctor Robinson has wisely stated it would be a serious mistake to suppose that the word incompatible is synonymous with non-dispensable, and it is the careful pharmacist who knows well how to differentiate between the two types.

PRESCRIPTION NO. 1.

Bismuth Subnitrate	4 drachms
Iodoform	4 drachms
Liquid Petrolatum, to make	3 fluidounces
Mix	

This prescription, a modification of the now famous Bipp paste, has often been the cause of much trouble and dissatisfaction in that it develops a peculiar color on standing, shading from a light pink to violet-red or purplish color. This phenomenon is not always observed and makes the dispensing of the mixture doubly difficult, since it is not possible to predict just what is going to happen. Examination of a discolored sample revealed the presence of free iodine, which is present in a peculiar colloidal condition that renders it very difficult to identify by the usual tests. Unable at first to identify the color, an effort was made by an eliminative procedure to ascertain just what was responsible for the change. At first it was thought that the fault was due to the mineral oil, and observations were made that led one to believe that this assumption was correct, since the change occurred with certain brands of oils and not with others. Finally, however, the culprit was found in the person of the bismuth compound. Variable degrees of acidity are found in market brands of this compound, and it is the free nitric acid contained in some samples of bismuth subnitrate that apparently causes the liberation of the iodine and the formation of the color in the prescription. The coloration noted can be simulated by omitting the bismuth subnitrate and adding a drop or two of nitric acid. Incidentally, this coloration is evident even when the purest obtainable brands of iodoform are used.

PRESCRIPTION NO. 2.

Tincture of Nux vomica	4 fluidrachms
Tincture of Cinchona	4 fluidrachms
Fluidextract of Licorice	1 fluidounce
Distilled Water, to make	3 fluidounces
Make into a solution.	

This prescription on standing develops a heavy precipitate, which under some conditions is singularly adhesive and, consequently, difficult to shake into a homogeneous mixture. A similar incompatibility has been noted in British pharmaceutical literature, and there the statement is made that the precipitate consisted of the glycyrrhizinates of the alkaloids. Experiments conducted on the above prescription corroborated this fact. The precipitate referred to consisted mainly of strychnine, cinchona alkaloids and glycyrrhizin. The supernatant fluid contained less than half the alkaloids, which should have been present, had the precipitation not occurred. This precipitation is progressive and there is no doubt but that all the alkaloidal constituents would be precipitated in time. It has been stated, that either the albuminous constituents or else the natural acids present in the tinctures were responsible for the precipitation of the glycyrrhizin, but this is a mistake since this same phenomenon will be observed on the addition of a solution of pure glycyrrhizin to a solution of a neutral alkaloidal salt. Nor is it true that ammonia, contained in some fluidextracts of licorice, causes this precipitation, for the behavior of such extracts is not dissimilar to those free from ammonia. We know of no way to avoid this difficulty and consider it a dangerous incompatibility; the danger is lessened by dispensing with the "shake well" legend. This incompatibility has been often referred to in the literature, but not many pharmacists are aware of it. Pereira, Christensen, Tschirch and Hager have all called attention to it, either directly or indirectly.

PRESCRIPTION NO. 3.

Chlorazene	22.5 grains
Boric Acid	30 grains
Distilled Water, to make	2 fluidounces

Chloramine-T, or chlorazene, is the water-soluble chlorine compound originated by Dakin during the search for the ideal surgical antiseptic for battle-front use. Returning surgeons are enthused over the success of these chlorine compounds when properly and sensibly used, and the pharmacist will doubtless be called upon to serve them often in queer combinations. The above prescription was written for a mouth wash and compounded; a crystalline precipitate formed after standing a few hours. This insoluble material apparently was a compound of the boric acid with the chloramine-T. There was considerable diminution in the degree of acidity of the solution on standing, indicating the stated change. This change can be retarded but not prevented by the addition of glycerin. Chlorazene is also incompatible with alcohol and with peroxide of hydrogen.

PRESCRIPTION NO. 4.

Apothesine	4 grains
Sodium Borate	10 grains
Boric Acid	10 grains
Distilled Water	2 fluidounces

Apothesine is a new local anaesthetic; chemically, the cinnamic ester of gamma-diethylamino-propylene hydrochloride. It behaves very much like the alkaloids and is precipitated from its solution in water by most of the alkaloidal precipitants. The above prescription is for an eye lotion. It is incompatible as prescribed, for a dense precipitate—of the base of the anaesthetic—will form almost immediately, no matter how compounded, and this, of course, inhibits its use as an eye wash. Omission of the alkaline borate, however, will remedy the trouble. The prescriber need have no objection to this change, provided his attention is called to the difficulty incurred by the presence of the sodium salt. Glycerin added to the mixture would remedy the incompatibility but is contraindicated in eye-lotions of this type.

PRESCRIPTION NO. 5.

Codeine Sulphate	3 grains
Strontium Bromide	4 drachms
Peppermint Water, to make	3 fluidounces

While this incompatible mixture is not at all novel, attention is called to it because of the incorrect explanation so often made of the nature of the precipitate produced in it. A trade journal recently stated that codeine bromide was precipitated; another version has it, that the strontium bromide, being alkaline, precipitated the alkaloid. Neither statement is correct; both the substances mentioned are soluble in the vehicle. The proper explanation is, that insoluble strontium sulphate is precipitated and codeine sulphate is formed or the alkaloid is liberated, and both of the latter are soluble.

PRESCRIPTION NO. 6.

Zinc Acetate	4 grains
Sodium Borate	10 grains
Distilled Water, to make	2 fluidounces

This is a favorite prescription of a Philadelphia specialist, who, despite the fact that the incompatibility of the prescription has been pointed out to him, often insists on writing for it, much to the discomfort of many a down-town pharmacist. His regular pharmacist never bothers to acquaint him with the error but simply makes the change which he knows is necessary. Many of the prescription authorities, commenting on such a prescription as this, state that the flocculent precipitate, exhibited in the prescription compounded, is zinc borate. The writers tend to disagree, assert that the flocculent precipitate is a zinc hydrate and not borate. The production of a precipitate is inhibited by the substitution of boric acid for the sodium borate, or, by the addition of glycerin, which changes the sodium borate into boric acid and sodium metaborate. This addition, however, would not be permissible in an eye-wash, as glycerin is irritating to the eyes.

PRESCRIPTION NO. 7

Calcium Iodide	
Zinc Iodide, of each	16 grains
Anise Water, to make	2 fluidounces

No matter how this prescription is compounded, there is formed a ligh. gelatinous precipitate which grows progressively heavier. The examination of the precip. did not explain matters much—the composition of zinc iodide is so variable that it would be difficult to hazard even a guess as to the nature of the precipitate. The excessive alkalinity of the zinc iodide may have been responsible for the dissociation of the calcium iodide which is also a very unstable compound. Then, there is the possibility that the zinc iodide, particularly if old, may have been changed to the insoluble oxy-iodide. The precipitate may be prevented by the addition of a trace of boric acid or ammonium chloride.

PRESCRIPTION NO. 8.

Theobromine	30 grains
Sodium Salicylate	2 drachms
Peppermint Water, to make	3 fluidounces

This prescription was probably written by a physician who, at least, endeavored to get away from proprietary ethical remedies, since it was, undoubtedly, an attempt to ethically prescribe diuretin. The writer, perhaps, did not know that theobromine-sodio-salicylate, or diuretin, is official in the U. S. P. Theobromine is not soluble in the presence of sodium salicylate, as many persons believe. It is sodium theobromine which is used with sodium salicylate in the production of the water-soluble diuretin. This prescription can be compounded by using a little gum to suspend the alkaloid, but it cannot be dispensed as a clear solution without some radical changes in the nature of the solvent. When the prescription was first filled the prescriber objected to it because it was not clear, but was satisfied after the explanation, here presented, was made.

THE ACCURACY OF DISPENSING TABLETS.*

BY JOS. W. E. HARRISSON AND K. F. EHMANN.

Question has been raised as to the accuracy of the so-called Dispensing Tablets and this is the primary reason for our investigation. At a recent meeting of pharmacists in Philadelphia it was debated whether it was perfectly safe to use these in prescription compounding. The consensus of opinion among those present was that they were reasonably accurate.

The tablets which we examined were obtained from some of the larger pharmaceutical manufacturing firms of this country. It may be readily seen that greater accuracy and uniformity is probable with the use of correctly made dispensing tablets of potent chemicals. The weighing of small quantities of potent chemicals involves great care and the use of accurate weights and balances. Some say that triturations are just as accurate and as safe as the dispensing tablets. This is quite true if the trituration has been properly done, but if the work is entrusted to those who have not the proper conception of the importance of this seemingly simple manipulation the product may be improperly prepared and, therefore dangerous.

Tablets of strychnine sulphate and mercuric chloride were selected as being representative of the line of Dispensing Tablets; they seemed to be the ones most extensively used in pharmaceutical dispensing. The following methods of analyses were adopted for their examination:

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*Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., New York meeting, 1919.

METHODS OF ANALYSES.

Strychnine Sulphate Tablets.—Tablets equal to 2 grains of strychnine sulphate were dissolved in 30 mils of water in a separatory funnel. After perfect solution had been effected 5 mils of ammonium hydroxide, 10 percent solution was added, and the strychnine alkaloid shaken out with 10-mil portions of chloroform. The combined extractions were evaporated and to the residue 10 mils of $N/10$ sulphuric acid were added. The excess of acid was titrated with $N/50$ potassium hydroxide, cochineal was used as the indicator.

Mercuric Chloride Tablets.—Tablets equal to 5 grains were dissolved in 300 mils of distilled water and the method of U. S. P. IX was used, with a single modification—the sulphide was collected in weighed Gooch crucibles instead of using the official balanced filter papers.

Counter checks were run on the tablets, using Seamons Volumetric Method of titration with a standard solution of potassium iodide.

The results are tabulated as follows:

ANALYSES OF DISPENSING TABLETS.

Kind of tablets (Strychnine sulphate: 1/4, 1/3 and 1/2 grain each. Mercuric chloride: 1/4, 1/3, 1/2 and 1 grain each).	Letters in parenthesis preceding numerals have reference to manufacturers. Milligrammes of drug found in tablets, said to represent 1 grain of drug (64.5 + mg.)	Letters in parenthesis preceding percentage numbers refer to manufacturers. Percent of drug found.
Strychnine Sulphate 1/4 grain	(A) 70.8, (B) 64.94, (C) 65.2 (D) 54.8, (E) 54.9, (F) 63.38	(A) 109.2, (B) 101.1, (C) 100.6 (D) 84.5, (E) 84.6, (F) 97.6
Strychnine Sulphate 1/3 grain	(A) 68.4, (B) 64.63, (C) 67.9 (D) 64.82, (E) 63.38, (F) 65.78	(A) 105.05, (B) 99.7, (C) 104.6 (D) 100.02, (E) 97.6, (F) 101.5
Strychnine Sulphate 1/2 grain	(B) 65.26, (C) 64.83, (D) 58.8 (E) 65.9, (F) 65.8	(B) 100.5, (C) 100.02, (D) 90.7 (E) 101.7, (F) 101.5
Mercuric Chloride 1/4 grain	Volumetric Estimation: (A) 68.3, (B) 55.1, (C) 55.4, (D) 60, (E) 58.1 Gravimetric: (A) 67.2, (B) 54.6, (C) 58.3, (D) 59.9, (E) 61.15.	(A) 103.7, (B) 84.2, (C) 90.0 (D) 92.4, (E) 94.3
Mercuric Chloride 1/3 grain	Volumetric Estimation: (A) 64.07, (B) 62.3 Gravimetric: (A) 64.6, (B) 66.0	(A) 99.6, (B) 101.9
Mercuric Chloride 1/2 grain	Volumetric Estimation: (A) 66.8, (C) 55.6, (D) 59.2, (E) 57.2 Gravimetric: (A) 66.3, (C) 58.8, (D) 60.9, (E) 59.2	(A) 102.3, (C) 96.7, (D) 93.9, (E) 92.4
Mercuric Chloride 1 grain	Volumetric Estimation: (B) 58.9 Gravimetric: (B) 61.61	(B) 95.07

The general run of all tablets examined was very near the stated weight, though one lot was deficient by fifteen and one-half percent; this was very likely due more to disintegration of the tablets in transportation than to faulty manufacture. A variation of ten percent could readily be allowed as this would be an infinitesimal quantity in the dosage of these potent chemicals.

NON-ALCOHOLIC SOLVENT FOR ACETYLSALICYLIC ACID.*

BY IRWIN A. BECKER.

It is usually desirable to give medicines in solution to infants and young children. Hydroalcoholic vehicles, such as aromatic elixir, essence of pepsin, etc., may dissolve a sufficient amount of acetylsalicylic acid for the required dosage, but are, frequently, undesirable for other reasons—their alcoholic content or some other constituent of the preparation.

Recently, physicians in our community prescribed solution of potassium citrate, made with lemon juice, as a solvent and vehicle for acetylsalicylic acid. They were very particular relative to the method of preparation and, in some instances, designated the pharmacist by whom these prescriptions were to be compounded. Some pediatricians discovered that solution of potassium citrate readily dissolved acetylsalicylic acid in sufficient quantity for their needs in the treatment of children. It was also found that the proportion of potassium citrate to acetylsalicylic acid varied, within a limited range—between three and four parts of potassium citrate to one of acid, on the one hand, and an undesirable amount or the limit of solubility of the potassium citrate, on the other. The most desirable proportions, to insure complete solution under the various conditions of compounding, are about four to one, *i. e.*, for every gramme of acetylsalicylic acid, prescribed in a mixture, 4 grammes of potassium citrate are required. Syrup may be added, if desired by the physician, to make the preparation more palatable.

The writer experimented with sodium citrate and found that it answered the purpose as well as potassium citrate, and is considerably cheaper. A number of physicians who were interviewed relative to possible therapeutic incompatibilities between alkaline citrates and acetylsalicylic acid stated that in their practice none had occurred.

It may be mentioned that the delicate reaction with ferric chloride solution for free salicylic acid and soluble salicylates is inhibited. It was also attempted to remove the dissolved acetylsalicylic acid by shaking out with immiscible solvents, using both ether and chloroform alone, and together, but only a very small amount of residue was recovered on evaporation of the solvent, showing that, probably, a combination of the acetylsalicylic acid and the alkaline citrate is effected. It was also found that salicylic acid can readily be dissolved in water by the aid of sodium or potassium citrate in the proportion of four to one; so that with a solubility of 1 to 460 in water, 5 grains of salicylic acid and 20 grains of sodium or potassium citrate will readily dissolve in 60 minims of water, *i. e.*, in the proportion of about 1 to 11.

GALEN.*

BY LOUIS GERSHENFELD.

I will venture to ask your attention to a brief sketch of a historical personage, who may be considered as representing one of the most remarkable of medical and indirectly of pharmaceutical characters, one to whom we owe a debt of gratitude.

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*Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., New York meeting, 1919.

* Read before Section on Historical Pharmacy, A. Ph. A., New York meeting, 1919.

Claudius Galenus (A. D. 130–200) was born early in the autumn of the second century in the city of Pergamus, in Mysia, near the western coast of Asia Minor, opposite the Aegean Archipelago. He was a Greek by descent as well as by birth. His father, whose name was Nikon, was a man of influence, good fortune and wealth, and, as Galen himself informs us, in addition to his vast knowledge of architecture, astronomy, arithmetic, grammar and other branches of philosophy, he was a man possessed of patience, justice and numerous other virtues.

Galen received a liberal education in the various branches of knowledge obtainable at the time; nothing was spared to make this thorough and comprehensive. His first instruction was received from his father. At the age of 15, he entered upon the study of philosophy and logic, considering the subject with the ablest teachers of the day. Destined to become one of the greatest pupils of philosophy, his plans were quickly changed by his father, who in consequence of advice given him in a dream, chose for his son the profession of medicine. On what a delicate poise does the destiny of a great genius sometimes hang or turn. Thus a youth, who became one of the most celebrated physicians in the world—one whose influence in different branches of medical science has been more extensive and of far longer duration than that of any other individual either in ancient or modern times—had his helm put about and a new chart and new sailing directions given to him, in consequence of a whim suggested by a dream. The influence of this dream hovered over medicine during many subsequent ages.

Nothing was spared in his medical education so as to obtain the best of knowledge, though at the age of 21, he was called upon to mourn the loss of his father. He studied medicine under several masters of Pergamus and then left for Smyrna to study philosophy and medicine; he went to Corinth to attend other lectures and finally to Alexandria in Egypt, then the center of medical science, where he devoted himself more especially to anatomy. Not satisfied with the vast knowledge thus gained from the corps of instructors, he traveled into other countries to further and better witness the practice of men of eminence, to converse with experienced physicians, to observe natural peculiarities and the influence of climate on disease. He accordingly, with this end in view, traveled on foot (so that his opportunities for careful observation might be increased) to Phoenicia, Palestine, Crete, Cyprus, Italy and Macedonia.

Having in all these ways acquired an extensive and thorough knowledge of the principles and practice of medicine and surgery, he then returned to his native city at the age of 29, and such was the estimation in which he was held in Pergamus, that he immediately was appointed by the Pontiff, or High Priest, Physician to the School of Gladiators—a position which he filled with great reputation owing to his success in the treatment of fractures and wounds incident to the fierce combats there practiced. Owing to some seditious disturbances and popular commotions which occurred Galen (in his 34th year) left his own country and settled in Rome. Because of his successful disputations, lectures, writings and practice he excited so much envy and ill-will among the Roman physicians that he remained there only 5 years. He was, however, able to hold his own and succeeded in acquiring the friendship and confidence of many distinguished and influential persons and families, whom he treated. He later attended Emperor Aurelius and his son, preparing for them Theriaca.

Galen is sometimes said to have kept a pharmacy in the *Via d'acra* at Rome, but his "apotheca" there appears to have been a house where his writings were kept and where other physicians came to consult them.

He aimed to create a perfect system of physiology, pathology and treatment. He is alleged to have written 500 treatises on medicine and 250 on other subjects, as grammar, law, philosophy, alchemy, etc. All his writings, originally in Greek, have been translated by different persons into Latin; the most important and well-known volumes being those on anatomy, physiology, hygiene, physic and surgery, materia medica and pharmacy, philosophy, and miscellaneous subjects. In some of these foregoing volumes, there may be found descriptions of numerous foods and drugs used to-day, as oats, wheat, barley, rice, beans, flaxseed, hempseed and the poppy seed. Considering that the microscope, chemistry, and other sciences were not yet known, we wonder how Galen was capable of obtaining the information that one can obtain from his writings. He is acclaimed as the first one to describe the nervous system and to tell in detail all about circulation.

He probably died in the year 200 or 201, either in Pergamus or Palestine.

THE NEW EMPLOYEE—HOW TO SELECT HIM AND IMPROVE THE PERSONNEL OF AN ORGANIZATION.*

BY EARL H. CONE.

By reducing the number of replacements effectiveness is increased—the employee should be carefully selected for the job; rules are suggested—the form to be filled out by the prospective employee and its scope.

An employee is selected for his fitness to do certain work for an organization. The success or efficiency of an organization depends in a large degree on infrequent changes in the clerical and sales forces.

The following simple rules for selecting employees are submitted for guidance:

The requirement of filling out the application and information blank is the first essential. Why?

Some will decline to fill out the blank; these are not suited for the positions you desire to fill. Others may have to be coached and require several trials before they complete the records. For each question there is a reason, and a study of all of them, separately and conjointly, gives the employer information of great value for estimating the possibilities of the applicant, and lifts the right man into the class in which he belongs.

Every position in a drug store demands more or less detail. The careful, accurate man will fill out the blank, neatly and completely.

The filing of the blank gives the prospective employer a test as to how quickly the applicant thinks and acts.

The data serve the employer in the investigation of references submitted by the applicant; these investigations should be made.

The importance of investigating the obligations and indebtedness of the applicant will be recognized.

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* Read before Section on Commercial Interests, A. Ph. A., New York meeting, 1919.

The question of "How many cigarettes are smoked?" is often replied to with a smaller number than afterward admitted.

The author credits the Retail Credit Company of America with coöperation in framing the application and in improving the personnel of his several stores in Atlanta.

The application form follows:

APPLICATION FORM.

Fill out in your own handwriting and return in person or by mail.

Date.....19....

1-A Name.....

1-B Address.....

Street and Number.....City.....State.....Phone.....

2-A Name of person with whom you reside?.....B—What relation?.....

3—Born at.....B—Age.....

4—In what places have you lived?.....

5—Married or single?.....6—Religious affiliation?.....

7—Who is dependent upon you for support?.....

8—Give father's name.....B—His occupation.....

9—What position do you now hold?.....

B—Name of company or employer?.....

C—How long so engaged?..... D—Salary?.....

10—Why do you wish to change?.....

11—What is it your ambition to be?.....

12—What are you doing in self-development to reach that aim?.....

13—Give record of previous employment:

Company or employer: Address: Length of Service: Salary: Reason for leaving:

14—Name schools or colleges you have attended.....

B—What grade or class did you finish?.....

C—Do you operate a typewriter?.....

D—Are you registered?.....Date.....State.....

15—Name some of the books you have read in past six months?.....

B—What magazines do you read regularly?.....

16—To what social, athletic, religious or military organizations do you belong?.....

17—Have you a hobby?.....B—If so, what?.....

18—What exercises, recreation or amusements do you have?.....

19—Are you:

Careful?..... Patient?..... Thoughtful?..... Nervous?.....

Optimistic?..... Orderly?..... Active?..... Calm?.....

20—What illness have you had in past three years?.....

21—Is your eyesight or hearing defective?.....

21-A What is your height?.....Weight?.....

22—How many cigars do you smoke daily?.....B—How many cigarettes?.....

23—Have you any income other than your salary?.....

24—What is the approximate amount of obligations you now owe?.....

25—Give name and address of 3 references not related to you and by whom you have not been employed:

26—Tell in a general way what plans you have for the future, and why you think you are adapted to our line of work?

DEPARTMENT OF COMMERCIAL INTERESTS

Conducted by DR. ROBERT P. FISCHELIS.

James F. Kane, the proprietor of a prosperous pharmacy at Pittston, Pa., hits the nail on the head in the following paragraphs taken from a letter received by the writer in which Mr. Kane voices his approval of the Department of Commerical Interests of this JOURNAL. He writes: "I yield the palm to no man in our ranks when it comes to upholding the dignity and high standard that ought to be maintained in the Prescription or Professional Department of our business, but I know, after thirty years of experience, that the merchandising department must not be neglected if the druggist has a vision of a brighter day to come.

"Service, not self, should be the motto in every drug store, and it can as easily be applied to the commercial department as to the professional, and if we will all practice that motto, there will be fewer failures and less temptation to do the things that we should not do, either as pharmacists or merchants.

"A druggist, because of his long hours, exacting duties, and educational requirements, should be well paid for his effort in serving the public, and as merchandising is the easiest means to that end I consider it a duty that we owe to all young men entering our ranks, to teach them high ideals and practices in that department also."

The foregoing statements summarize admirably the need for what the Pharmaceutical Syllabus designates as Commercial Training or education in Commercial Pharmacy. Whereas in former years pharmacists collected some of their drugs or purchased them direct from collectors and made them into the recognized preparations, to-day no retail druggist does any collecting of drugs, and few manufacture pharmaceuticals requiring complicated apparatus and time-consuming procedures. It is not our place here to either condemn or condone this change in conditions. We simply recognize conditions as they are and advocate training men to fit the requirements of the times. However, we do not advocate shutting the door to the purely professional teaching of pharmacy, for in any given group of pharmacists there will always be a few who make professional practice their source of income. The number is limited, because no community can support more than a very few such pharmacists. The balance must take on merchandise of various kinds to supply the public demands, or starve. Every pharmacist should be equipped to carry on both kinds of drug stores, and the responsibility of training young men and women accordingly must be shared equally by the Colleges of Pharmacy and the proprietors of drug stores or preceptors.

In times gone by the apprentices or their guardians were as particular in selecting the men with whom they served their time as the preceptors were in selecting apprentices. Each recognized that, once the agreement was made, the other party was entitled to service or instruction, as the case might be. The system was good, and if we were called upon to-day to advise some youngster who contemplated embarking on a pharmaceutical career we would urge him most earnestly to apprentice himself—as near as that is possible to-day—to one of the retail druggists of recognized standing in his community and to begin at the beginning.

learning the names of preparations by giving their containers the weekly bath, etc.

The well-trained and successful retail druggist can be a wonderful teacher of his clerks because the opportunities for imparting instruction are so frequent and varied. There is, for example, the buying of drugs. How many retail druggists teach their clerks anything about buying? How many are willing to let clerks profit by the mistakes they have made, and how many have sufficient system about their buying to make it worth teaching? Several years ago Charles Holzhauer, of Newark, N. J., gave an outline of his system of keeping track of prices and quantities purchased through a simple card index record. The main features of this system are embodied in the following comment:

For every item handled there is a separate card. On this card there is a record of the date of purchase, the quantity, the price and the name of the firm from which the goods are bought, with such other reference notes as may be of value as a guide in making future purchases. What is the result of keeping such records? Facts, actual information, on which an intelligent procedure can be based, rather than guesswork which results from attempting to carry everything in the head. The advantage of having records on hand on which to base one's judgment in buying can be measued in dollars. Such records must be kept up to date and, needless to say, they are worthless while in the filing case. Constant use gives them a real value.

Let us assume that Mr. Chemical Salesman is paying his periodical visit to the store. He offers us a certain U. S. P. chemical at an attractive figure. Without records we would look at the stock bottle and perhaps walk to the store room to see what stocks are on hand and, finding none, we would conclude that a quantity of the stuff should be laid in, as long as the price is right. The salesman gets the order, and the chances are we have a five years' supply, at the end of which time the market price may be one-half the figure at which the chemical was bought. Never mind if the loss can be covered somehow—it remains a loss nevertheless, and all because we did not have facts. With our records at hand we would look up the chemical offered and confirm the salesman's statement that the price quoted is lower than that of the last lot we bought, but, we ordered it two years ago in half the quantity that is now being offered at the low figure, and there is still several months' supply on hand. Furthermore, the purchase previous to the last on record was less than the last, and it lasted two years. We therefore decide that inasmuch as this chemical is not consumed in great quantities it would not pay to tie up the money required to buy the amount necessary to get the low price. Records, just a few figures, taken in at a glance, have enabled us to make a decision quickly and have dismissed any doubt in our minds as to the wisdom of the course pursued.

Big corporations to-day are successful because they make no random shots. They hit the bull's eye nine times out of ten because their aim is supported by facts and figures, which leave no room for doubt or indecision. The principles that make for success in large enterprises can be applied with equal force to smaller ones.

We often wondered whether the study of materia medica and botany had any practical application in retail pharmacy of to-day, outside of the general knowledge that was gained in poring over the text-books that described the sources, uses,

dosage, etc., of the many drugs enumerated. One day we were charged with the buying of supplies, and in glancing over the daily news we read of sporadic cases of a disease which was assuming epidemic proportions in the surrounding country. Later in the day we received a number of prescriptions calling for a certain drug that was considered a specific in the treatment of the epidemic disease. The evening papers told of floods and devastating storms in the Far East which had destroyed crops of a number of medicinal plants. Separately these news items were interesting, but meant nothing. Coupled collectively with our knowledge of the habitat of drugs it meant that there would later on be a shortage of the specific drug prescribed for the epidemic disease because it came from the Far Eastern lands where drug crops had been injured. Anticipated shortages of drugs, based on real causes, have an influence on the current prices as soon as handlers of these drugs become aware of the conditions. Knowing this we immediately stocked up on the drug in question, and as a result were able to supply the demands when these became heavy, while others were breaking their necks to make purchases at any price.

Watching the drug market and learning the conditions which influence it are a large part of the buyer's education. Teachers in pharmacy schools should draw attention to the commercial value of the information they impart. It will not lower their dignity, and may often turn a highly theoretical course loathed by the student into something practical that is doubly appreciated.

BIBLIOGRAPHIES.

The purpose of this comment is to express satisfaction at the results of the establishment of the Bibliography of Pharmaceutical Research conducted by the Reporter on the Progress of Pharmacy, Dr. H. V. Arny. It is also intended to point to this work by the American Pharmaceutical Association as valuable and important to pharmacy and for pharmacists, for scientists in related lines of endeavor, and for the public. Work of this kind is conducted by organizations, by libraries, and very often conducted at an expense, but is of immense assistance to research workers and ultimately brings valuable results. The work undertaken by members of the Association, and under its guidance, has been so valuable that a brief comment does not give due credit. In the April issue mention was made of the investigations of one of our members which laid the foundation for what is to-day known as colloidal chemistry.

Information is the beginning and the goal of research, and the researcher must have reference to the literature on work that is engaging him; bibliographies, therefore, are important sources of information. The preparation of bibliographies requires time, and represents much investigation and reading. The department established in the JOURNAL will prove of great value. Those who presented this timely thought, and others who are contributing their services, are entitled to more than these few words of appreciation, but in seeing the fruitful results of their efforts they have a measure of satisfaction.

BIBLIOGRAPHY OF PHARMACEUTICAL RESEARCH

Conducted by H. V. Arny, Reporter on the Progress of Pharmacy, Chairman of the Committee on Research.

On these pages, each month, will be found a list of articles on pharmaceutical research that appear in the pharmaceutical and other scientific journals of the world. Whenever possible, the list appearing a certain month will record articles appearing in American journals of the preceding month and articles appearing in foreign journals will be recorded as quickly as possible after the journals reach the Reporter.

All articles appearing in these lists will be presented in abstract form in the bound volumes of the Year Book, which will be issued as soon after the end of the year represented as editing and printing conditions permit. Those desiring abstracts immediately can obtain same for a fee of one dollar each by communicating with H. V. Arny, 115 West 68th St., New York, and arrangements can also be made for securing photographic reproduction of entire articles at moderate prices when such are desired.

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J. Am. Pharm. Assoc., 9 (Mch. 1920), 257
Éwe, G. E.
Suggestions as to N. F. revision
Am. J. Pharm., 92 (Mch. 1920), 165
Ewing, C. O.
Elm bark as adulterant of white pine bark
J. Am. Pharm. Assoc., 9 (Mch. 1920), 253
Falck
Assay of sulphonal
Pharm. Zent.; through *Pharm. Era*, 53 (Apr. 1920), 112
Feist, K.
Assay of solution of ferric chloride
Arch. Pharm.; through *Pharm. Zent.*, 61 (Feb. 5, 1920), 68
Feulgen, R.
Assay of purin bases in nucleic acid
Ber. Klin. Wschr.; through *Pharm. Zent.*, 61 (Jan. 27, 1920), 56
Forgues, E.
Antiseptic properties of septacrol
Bull. Soc. Therap.; through *J. pharm. chim.*, 21 (Feb. 1, 1920), 109
Fortini
Rapid assay of resin in soap
Seifenseid. Ztg.; through *Pharm. Weekblad*, 57 (Mch. 27, 1920), 353
Fuller, H. C.
Substitutes for alcohol in medicines
J. Am. Pharm. Assoc., 9 (Mch. 1920), 246
Gaglio and Roseo
Vitamines in urine
Policlinico; through *Pharm. J.*, 102 (Mch. 13, 1920), 250
Gane, E. H.
Suggestions as to pharmacopœial revision
J. Am. Pharm. Assoc. (Apr. 1920), 366
Gawalowski, A.
Testing filter paper for iron
D. A. Apoth. Ztg., 40 (Feb. 1920), 156
Geronne, A., and Lenz, W.
Thymol for typhoid
Schimmel's Rept.; through *Am. Drug.*, 68 (Apr. 1920), 60
Gesell, J., and Marschalko, B.
New assay of opium alkaloids
Ztsch. anal. Chim.; through *Pharm. Zent.*, 61 (Feb. 5, 1920), 69
Gidley, W. F.
Oral Hygiene and oral antiseptics
J. Am. Pharm. Assoc. (Apr. 1920), 370
Gilg, E., and Schuster, J.
Sulphuric reaction
B. dtsch. Pharm. Ges., 61 (Feb. 5, 1920), 66
Goodson, J. A., and Clever, H. W. B.
Oxyhygric in the bark of Croton gubouga
J. Chem. Soc.; through *J. pharm. chim.*, 21 (Feb. 1, 1920), 98
Goris, A.
Percolation
Bull. Sci. Pharm.; through *Pharm. J.*, 104 (Mch. 6, 1920), 225
Griebel and Schaefer
Adulterated origanum
Pharm. Ztg.; through *Pharm. J.*, 104 (Mch. 6 1920), 225
Grünhut, L.
Assay of amino-nitrogen
Chem. Ztg.; through *Pharm. Zent.*, 61 (Jan. 27, 1920), 57
Hahn and Meisner
Protoactinium
Chem. Ztg.; through *Pharm. Zent.*, 61 (Jan. 27, 1920), 58
Harkins, W. D.
Separation of chlorine into chlorine and meta-chlorine
Science, 51 (Mch. 19, 1920), 289
Heiduschka, A., and Paul, M.
Colorimetric morphine assay
Arch. Pharm.; through *Pract. Drug.*, 48 (Apr. 1920), 34
Heiduschka and Luft
Oil of Oenothera biennis
Arch. pharm.; through *Drug. Circ.*, 64 (Apr. 1920), 141
Herscheimer, K., and Altmann, K.
Liquor carbonis detergens
Berl. Klin. Wsch.; through *Pharm. Weekblad*, 57 (Mch. 27, 1920), 353
Herxheimer and Altmann
Liquor carbonis detergens
Ber. Klin. Wschr.; through *Pharm. Zent.*, 61 (Feb. 5, 1920), 69
Herzog, J., and Hanner, A.
Adulterated cocaine hydrochloride
Apoth. Ztg.; through *Pharm. Zent.*, 61 (Jan. 27, 1920), 59
Higgins, E.
Medicinal plants of Bahia
Am. J. Pharm., 92 (Mch. 1920), 182
Hill, J. R.
Note on protoiodide of mercury
Chem. & Drug., 92 (Mch. 27, 1920), 421
Hollborn
Preparation of eosin-methylene blue solution
Dtsch. Med. Wschr.; through *Pharm. Weekblad*, 57 (Mch. 16, 1920), 333

Holmes, E. M.
Herb growing in Britain
Chem. & Drug., 92 (Mch. 27, 1920), 421
Holmsen, P.
A new volumetric assay of lead
Tid. Kemi; through *Pharm. Weekblad*, 57 (Mch. 16, 1920), 328
Huth
Testing denatured alcohol
Pharm. Ztg.; through *Pharm. Zent.*, 61 (Jan. 27, 1920), 58
Jansen, B. C. P.
Vitamines in coconut oil
Med. Geneesk. Lab.; through *Pharm. Weekblad*, 57 (Mch. 27, 1920), 354
Jermstad, A., and Gaule, A.
Tin content of distilled water
Schweiz. Apoth. Ztg.; through *Pharm. Zent.*, 61 (Jan. 27, 1920), 57
Johansson, D.
Abietic acid
Arkiv. Kem. Min. Geol.; through *J. Soc. Chem. Ind.*, 39 (Mch. 15, 1920), 198A
Kassner, G.
Constituents of plum kernels
Arch. Pharm.; through *Pharm. Zent.*, 61 (Jan. 27, 1920), 56
Kaufmann, H. P.
Antiseptic properties of benzoic acid
Ztsch. angew. chem.; through *J. pharm. chim.*, 21 (Feb. 1, 1920), 108
Keefer, N. D.
Adsorption of pepsin by charcoal
Am. J. Pharm., 92 (Mch. 1920), 160
Kilmer, F. B.
Assay for sublimate gauze
Am. Drug., 68 (Apr. 1920), 18
Kitchin, G. S.
Salicylic acid incompatible with zinc oxide
Chem. & Drug., 92 (Mch. 27, 1920), 420
Kofler
Pharmacognosy of adulterated powdered gentian
Arch. Pharm.; through *Pharm. Zent.*, 61 (Jan. 27, 1920), 56
Kolthoff, I. M.
Testing salts for alkaline impurities
Pharm. Weekblad, 57 (Mch. 16, 1920), 252
Kowarski
Assay of sugar in small amounts of urine
Dtsch. Med. Wschr.; through *Schweiz. Apoth. Ztg.*, 58 (Mch. 25, 1920), 161
Kunz-Krause, H.
Cause of difference in mydriatic action of atropine solutions and belladonna dilutions
Kolloid. Zschr.; through *Pharm. Weekblad*, 57 (Mch. 27, 1920), 355
Lampa, R. R.
Suggestions as to pharmacopœial revision
Pract. Drug., 48 (Apr. 1920), 22
Leclerc, H.
Antispasmodic action of Ballota fetida
J. pharm. chim., 21 (Jan. 16, 1920), 71
LeFévre de Arric
Action of colloidal metals on diphtheria toxins
Compt. rend. Soc. Biol.; through *J. pharm. chim.*, 21 (Jan. 16, 1920), 70
Lodge, Olive C.
Sense reaction of flies
Bull. Entom. Sci.; through *Pharm. J.*, 104 (Mch. 27, 1920), 300
McCrae, J.
Hypochlorous content of eusol
Pharm. J., 104 (Mch. 13, 1920), 273
Mailhe, A., and DeGordon, F.
Catalytic production of ether
Bull. soc. chim.; through *J. pharm. chim.*, 21 (Feb. 1, 1920), 97
Mannich, C.
Absorption of digitalis glucosides
B. dtsch. Pharm. Ges.; through *Pharm. Zent.*, 61 (Jan. 27, 1920), 57
Mayer, J. L.
Assay of solution of magnesium citrate
J. Am. Pharm. Assoc. 9 (Mch. 1920), 253
Merton, T. R.
Isotopes of lead and thallium
J. Ind. Eng. Chem., 12 (Apr. 1920), 389
Moore, T. S.
De-arsenification of arsenic by hydrogen sulphide
Am. J. Pharm., 92 (Mch. 1920), 179
Mueller, Bertha
Formula for magma of magnesia
Am. J. Pharm., 92 (Mch. 1920), 162
Nierenstein, M.
Decomposition of quinine in the organism
J. Roy. Acad. Med. Corps; through *Drug. Circ.*, 64 (Apr. 1920), 141
Parutz, A.
Anise oil for itch
Schimmel's Rept.; through *Am. Drug.*, 68 (Apr. 1920), 14
Pictet, A., and Potok, J.
Distillation of stearate and oleate of sodium under reduced pressure
Helv. chim. Acta.; through *J. pharm. chim.*, 21 (Feb. 1, 1920), 96
Pyman, F. L., and Fargher, R. G.
Composition of salvarsan
Pharm. J., 104 (Mch. 27, 1920), 306
Reens, E.
Java Coca
Pharm. Weekblad, 57 (Mch. 27, 1920), 341

Richter-Quittner, M.
Microchemical assay of acetone in urine
Biochem. Ztschr.; through *J. Soc. Chem. Ind.*, 39 (Mch. 15, 1920), 206A
Rosenthaler, L.
Treub's hypothesis as to hydrocyanic acid formation
Schweiz. Apoth. Ztg., 58 (Mch. 11, 1920), 137
Rusby, H. H.
Suggestions as to pharmacopœial revision
J. Am. Pharm. Assoc. (Mch. 1920), 240
Scheringa, K.
Adsorptive capacity of various charcoals
Pharm. Weekblad, 57 (Mch. 27, 1920), 348
Sézary, A.
Vaccination against rheumatism
Compt. rend. Soc. Biol.; through *J. pharm. chim.*, 21 (Jan. 16, 1920), 69
Small, James
Geotropic response in roots and stems
Pharm. J., 104 (Mch. 27, 1920), 306
Smith, H. G.
Occurrence of terpene in oil of Eucalyptus megacarpa
J. Proc. Roy. Soc. N. S. W.; through *J. Soc. Chem. Ind.*, 39 (Mch. 15, 1920), 206A
Snipe, H.
Keeping auto wind shield clear
Brit. Med. J.; through *Am. Drug.*, 68 (Apr. 1920), 14
Steiger, O.
Ethyl bromide poisoning
Münch. Med. Wschr.; through *Pharm. Zent.*, 61 (Feb. 5, 1920), 72
Spaeth, E.
Baking powder
Pharm. Zentralh., 61 (Jan. 27, 1920), 51
Takahashi
Floridose
J. Tokyo Chem. Soc.; through *Drug. Circ.*, 64 (Apr. 1920), 141
Thieulin, R.
Colorimetric assay of glycogen
J. pharm. chim.
Thoms, H.
Oil obtained from the berries of Sambucus racemosa
Ber. dtsch. Pharm. Ges.; through *J. Soc. Chem. Ind.*, 39 (Mch. 15, 1920), 198A
Thum, J. K.
Pharmacopoeial notes
J. Am. Pharm. Assoc., 9 (Mch. 1920) 249,
Tunck, E., and Moeller, H.
Examination of pepsin
Pharm. Zent.; through *Pharm. Weekblad*, 57 (Mch. 16, 1920), 265
Ulrich
Staining tubercle bacilli
Dtsch. Med.; through *Schweiz. Apoth. Ztg.*, 58 (Mch. 25, 1920), 165
U. S. P. Revision Committee
Views as to pharmacopœial revision from many sources
J. Am. Pharm. Assoc. (Mch. 1920), 277, and (Apr. 1920), 400
Utz
Detection of picric acid in urine
Süddtsch. Apoth. Ztg., 58 (Mch. 25, 1920), 162
VanKetel, B. A.
Bacteriological examination of Izol
Pharm. Weekblad, 57 (Mch. 16, 1920), 322
VanLeeuwen, W. S., and LeHeux, J. W.
Relationship between action and concentration of medicines
Pharm. Weekblad, 57 (Mch. 16, 1920), 278 and 310
Vierhout
Curacao aloes
Pharm. Weekblad; through *Drug. Circ.*, 64 (Apr. 1920), 141
Von Friedrichs, O.
Constituents of althaea
Arch. Pharm.; through *Pharm. Era*, 53 (Apr. 1920), 112
Wasicky and Joachimowitz
Austrian hydrastis
Arch. Pharm.; through *Pharm. J.*, 104 (Mch. 13, 1920), 277
Weitzel, A.
Assay of zinc in urine and food
Arb. a. d. Reich.; through *Pharm. Weekblad*, 57 (Mch. 27, 1920), 350
Williams, M.
Absorption of colloidal gold by fungi
Ann. Bot.; through *Pharm. Weekblad*, 57 (Mch. 27, 1920), 351

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

BALTIMORE.

The regular monthly meeting of the Baltimore Branch was held April 21, President C. C. Neal presiding. As this will likely be the last meeting of the Branch until Fall, it was decided not to elect the secretary for the present to succeed the late Dr. Frontis Lentz.

Dr. J. F. Hancock, by request, presented the membership campaign plan advocated by Dr. E. L. Newcomb. The plan and its probable effect upon the A. Ph. A. was very generally discussed and upon motion of Mr. J. B. Thomas the Branch went on record as advocating a very serious study of the plan at the coming meeting of the A. Ph. A.

Council Representative, E. F. Kelly, then briefly outlined for the benefit of the members the several important questions recently considered by the Executive Committee of the Council and which it is hoped will be finally acted upon at the coming meeting of the A. Ph. A.

Dr. Hermann Engelhardt, member of the N. F. Revision Committee, discussed the plans for the coming revision of the National Formulary.

E. F. KELLY,
Secretary, pro-tem.

CHICAGO.

The 110th regular meeting of the Chicago Branch of the American Pharmaceutical Association was held at the Hotel LaSalle, Friday evening, April 23, at 8.00 o'clock, with a good attendance of members and friends.

President Clark presided. The Membership Committee reported twenty-six new members, and stated that at least as many more were expected before the annual meeting of the Association in May.

A donation of $115.29 for the expenses of the Branch, from the Entertainment Committee of the Chicago Convention (1918) of the A. Ph. A., was received with thanks.

The report of the committee on the Newcomb plan for increasing the membership of the A. Ph. A. and N. A. R. D. was received and the following motion was offered and unanimously adopted:

Moved, That the Chicago Branch of the American Pharmaceutical Association, assembled in regular monthly meeting, indorse the plan submitted by Dr. E. L. Newcomb, proposing an extensive campaign to increase the membership of the A. Ph. A., the N. A. R. D. and the State Associations, and that the Executive Committees of the associations concerned be asked to give the plan their earnest consideration.

It was suggested that, as the financial liability to be assumed by the associations might deter or prohibit the adoption of the plan, an advertising company or agency might be invited to serve as the Advertising Bureau in coöperation with the Central Committee and to underwrite financially the whole plan. In the discussion on this motion Secretary Day stated that the raising of the money to put the plan in operation appears to be the nub of the matter, and questioned whether the A. Ph. A. would be in a position to appropriate $15,000 for this purpose.

Dr. Fantus suggested that in order to hold such an increased membership great changes in the JOURNAL would be required so as to make it of a more popular character. He suggested that a scientific JOURNAL be published by the Association to care for the great mass of highly technical scientific papers, and that only those of a popular character be included in the regular JOURNAL.

Professor Wisner stated that he believed such a large and sudden increase in the membership as suggested might be considered an unhealthy growth, and that the Association would be better off in the long run by depending upon a normal healthy growth, aiming

especially to bring in the young men and women from our colleges of pharmacy.

Mr. William Gray raised the question as to how much the Association wants to grow. Shall we be contented to restrict our membership to those largely, or exclusively, interested in purely scientific pharmacy, or shall we aim to popularize the Association and seek the mass of American druggists?

Mr. H. N. Bruun said, "Let us make sure as to what we have to offer the retail pharmacist and whether our offering really appeals to him or satisfies his needs." Mrs. H. E. Carpenter, of Valparaiso, Ind., emphatically called upon the Association to strike while the iron is hot stating that now is the favorable time to get after an increased membership. Make the public realize that pharmacy is an essential and indispensable profession.

Mr. Sidney Schmidt called upon the Association to impress public officials and the general public with the real value to the public of highly trained professional pharmacists. He pointed out how the N. A. R. D., with its steadily enlarging membership, already was able to exert a powerful influence in legislative matters.

Secretary Gathercoal offered the following resolution, which was approved by the Branch:

RESOLUTION.

Whereas, The Executive Committee of the Council, in session at St. Louis, January 31, recommended to the Council that the annual dues be increased from $5.00 to $7.50, and

Whereas, It is the sense of this meeting of the Chicago Branch, in regular monthly session, that such general increase would be detrimental to the best interests of the Association; therefore,

Be it Resolved, That we recommend to the Council that no increase be made in the general dues but that the giving of the Year Book annually to each member be discontinued and that the Year Book be offered for sale to the members of the Association at $2.50 per volume, which is at a discount of $1.50 upon the regular price of $4.00 now established to non-members, and that our Council representative be requested to present this recommendation to the Council in its sessions at Washington, or that the dues remain at $5.00 without the Year Book and be increased to $7.50 with the Year Book.

In the discussion of this resolution Professor Day pointed out that he realizes that no member of the Association personally wishes an increase of the dues, but the fact remains that "we need the money" to keep the Association from running behind. He agreed that such an increase might almost defeat itself at first by the loss of members that might ensue, and that the suggestion contained in the resolution for limiting the distribution of the Year Book to those who were willing to pay an additional $2.50 might be just as satisfactory to the Association from a financial standpoint. Other members spoke in favor of the resolution and the general expression of opinion seems to be that this proposition was the most feasible one to solve the financial problems of the Association.

General Secretary Day inquired as to who were planning to attend the Washington meetings, and found that at least sixteen members of the Branch would be in Washington for the meetings.

E. N. GATHERCOAL, *Secretary*.

DETROIT.

The meeting of the Detroit Branch, A. Ph. A., was called to order by President Jones at 8 P.M., Friday, April 9, in the Y. M. C. A. Technical School Building.

A motion was made by Mr. Chase and duly seconded that the May meeting be postponed one week. The reason being due to conflicting dates of the Detroit Branch and the National meeting in Washington. Carried.

The May meeting being the last meeting of the year, President Jones appointed Messrs. Scoville, Mann and Schettler to act as a nominating committee for officers of the ensuing year.

The paper of the evening was read by Professor Jones on "Dyes and their Application." He gave a very interesting and educational lecture on all the different phases, explaining in minute detail the basic dye, acid dye, direct dye, and mordanting. This was accompanied by actual demonstration showing examples of dyes coloring wool and silk and not cotton, and *vice versa*. Another very interesting demonstration was the different coloring obtained by the addition of phenol, resorcinol and beta naphthol to a dye.

The art of dyeing textiles and different methods used was shown by demonstration.

At the close of the paper a general discussion followed in which Mr. Schettler spoke on the different dyes which were being used in the practice of medicine.

C. B. WASHBURNE,
Temporary Secretary.

NEBRASKA.

The April meeting (26th) of the Nebraska Branch of the American Pharmaceutical Association was held in the library of the College of Pharmacy of the University of Nebraska. The meeting was called to order by Dr. R. A. Lyman, who explained the aims and purposes of the organization. The following officers were elected:

President, A. V. Pease, of Fairbury; *First Vice-President*, Chas. Sherman, of Omaha; *Second Vice-President*, D. J. Fink, of Holdrege; *Third Vice-President*, L. W. McConnell, of McCook; *Secretary-Treasurer*, Albert Schneider, of Lincoln.

The officers-elect of the Branch were appointed a program committee and also the Executive Committee, with power to appoint other committees as may be desirable. A. V. Pease, Chas. Sherman and E. O. Haschenburger were appointed the membership committee. Dr. Rufus A. Lyman was appointed the delegate to the Council of the A. Ph. A. The regular meetings of the Branch will be monthly on the second Tuesday of each month, excepting that there will be no meeting in May and that the June meeting will be held in Omaha at the time of the meeting of the State Pharmaceutical Association. The monthly meetings will be held in Pharmacy Hall on the University Campus.

Brief addresses were made by Miss Elsie Day, Messrs. Pease, Haschenburger and others, and letters of regret from those who could not be present were read by Dr. Lyman, after which the following papers were presented by Dr. Albert Schneider:

A Preliminary Report on a Simplified Method for Determining the Phenol Coefficient of Disinfectants.

A Report on the Examination of Canned Olives and the Recent Poisoned Olive Scare.

A verbal report on the examination of hog remedies and cattle and condition powders in the Food and Drug Laboratory of the College of Pharmacy.

The reports elicited considerable discussion, after which the meeting was adjourned.

ALBERT SCHNEIDER, *Secretary.*

NORTHWESTERN.

On Wednesday, April 7, the Northwest Branch of the American Pharmaceutical Association and the Minnesota State Pharmaceutical Association, met in joint session at the West Hotel, Minneapolis, to hear addresses by Major A. V. Dalrymple, U. S. Prohibition Enforcement Officer for the Central Division, and Mr. J. G. Steenson, Federal Prohibition Enforcement Officer for the State of Minnesota. The meeting was preceded by a banquet.

Major Dalrymple stated that the Prohibition Law is constitutional. He laid stress on the point that liquor must not be kept in a residence connecting with a store where there is a private entrance from the store into the residence. Such liquor is technically liable to seizure and the owner is liable to prosecution. He mentioned that in Chicago about 40% of the saloon men have gone into the drug business with the idea of continuing to sell liquor to the public under the guise of medicines. He called upon the druggists and physicians present to help him in the enforcement of the law and gave it as his opinion that a man who will violate this law is no better than one who will issue spurious coin. Such a man is un-American and is nothing but a breeder of Bolshevism in this country.

Major Dalrymple said he was anxious to have every honest doctor and druggist take out his permit to supply necessary liquor for the sick. In his opinion it is an injustice to brand the druggist as a "retail liquor dealer" and tax him $25.00 per year. He advocates a change in the name of "retail liquor dealer" and is prepared to do all in his power to take away that stigma. He proposes to use his best efforts to get Congress to impose a graduated tax, starting with say, $1.00 or $2.00 per year for the minimum number of prescriptions and increasing the tax according to the number of prescriptions filled.

In the discussion that ensued, it was stated that alcohol can now be medicated in advance and made ready for sale by one of the seven approved official formulas.

Druggists were advised that they might render the greatest service to the Department by seeing that each prescription is dated and cancelled by the prescription clerk at the time the prescription is filled.

Owing to the frequent changes that have taken place in the regulations affecting the enforcement of the Prohibition law, it is possible that here and there a druggist or a physician may have overstepped the bounds. In such cases, Major Dalrymple advises them to make report to the State Federal Office with an explanation of the circumstances, in which case further trouble would be avoided.

A rising vote of thanks was given to Major Dalrymple for his address.

Reporter's Note.—It is very questionable whether the advice of Major Dalrymple that all druggists and doctors should take out a license should be followed. This is altogether a matter of personal opinion and those physicians and druggists who do not wish to be sponged upon by all the local politicians and would-be politicians would, in the writer's opinion, be well advised to leave the liquor business severely alone.

F. A. UPSHER SMITH,
Secretary-Treasurer.

COUNCIL BUSINESS

A PH. A. COUNCIL LETTER NO. 29.

PHILADELPHIA, PA., March 20, 1920.

To the Members of the Council:

Motion No. 34 (Election of Active Members; applications Nos. 202 to 213, inclusive) and *(Motion No. 35, Election of Soldier and Sailor Members; applications Nos. 588 to 636, inclusive)*, have each received a majority vote.

H. V. Arny writes:

"Mr. Beringer's Substitute,

'That the Council of the American Pharmaceutical Association approve the plan proposed by the Executive Committee for the formation of an American Pharmaceutical Research Endowment and that it instruct the Committee on Research of the A. Ph. A. to immediately take up the proposed plan for such an endowment with the various national pharmaceutical, drug and chemical organizations, and that it be considered as a part of the duty of this committee to perfect the organization, if possible, of such a Research Endowment.

"To my motion has been given my careful attention. If the substitute merely means the changing of the phraseology of my motion I have no objection, since Mr. Beringer's mastery of English is known to us all.

"But Mr. Beringer's reference to the Indianapolis meeting leads one to wonder whether his substitute is intended to re-open the proposition which he pressed at that meeting, the presentation by the A. Ph. A. of the net profits accruing from the National Formulary to a National Committee or Board of Trustees yet to be appointed.

"As this project was rejected by the Council at that time (see JOURNAL A. Ph. A., 6, 1917, 1099), I must respectfully decline to voluntarily accept his substitute motion if Mr. Beringer has this project still in mind.

"As to Mr. Beringer's contention that the Research Committee is restricted in its operations, may I point out that with the approval of the Council at the Chicago meeting (see Journal A. Ph. A., 7, 1918, 909) the committee 'shall endeavor to promote research along pharmaceutical lines' which certainly gives it a broad scope of operations."

In Council Letter No. 25, H. V. Arny made the following motion, which was seconded by Jeannot Hostmann. "That the Council refer the matter of an American Research Endowment to the A. Ph. A. committee on Research, with a request that said committee take up the matter immediately as a part of its present aim of securing coöperation through the medium of its proposed National Committee on Pharmaceutical Research."

In Council Letter No. 26, G. M. Beringer offered the following substitute motion, which was seconded by F. E. Stewart: "I will, therefore, move, as a substitute for the recommendation of the Council and amendment thereto, made by Prof. H. V. Arny, the following: That the Council of the American Pharmaceutical Association approve the plan proposed by the Executive Committee for the formation of an American Pharmaceutical Research Endowment and that it instruct the Committee on Research of the A. Ph. A. to immediately take up the proposed plan for such an endowment with the various national pharmaceutical, drug and chemical organizations, and that it be considered as a part of the duty of this Committee to perfect the organization, if possible, of such a Research Endowment."

Action is now in order on the substitute motion of Mr. Beringer. Do you favor this motion? It will be regarded as *Motion No. 45 (Substitute Motion for Motion of H. V. Arny of Council Letter No. 25)*.

Under date of March 10, Jeannot Hostmann writes:

"I believe that very excellent work is being done by those local branches that hold regular meetings—work that is of great value to the parent body. I believe that it is unfair that some members should be expected to

pay 'local' dues while others do not. I believe that the financing of the local branches by the parent body would yield very good returns. But if the parent is going to supply the funds then it should have some supervisory power. The entire question of local branches should be carefully gone over.

"The country should be districted, assigning to each local branch its specific territory. The local branch should be able to show that a certain minimum number of meetings was held—say four each year. A determined effort should be made to interest all available members in its district in the activities of the local branch. An annual report should show how the funds were being spent. If this were done it would not take very long before it would be possible to judge whether the money spent was bringing adequate returns.

"As I view the question it will probably mean an expenditure of between $2,000 and $3,000—money that will be very well spent; enough money, however, that the spending thereof be carefully considered."

Under date of March 13, Mr. Hostmann further writes:

"I herewith move: That the Committee on Local Branches be instructed to prepare amendments to Chapter XIII of the By-laws of the Association and submit the same to the annual meeting in May next. The said amendments to provide for: *a.* The districting of the country providing for a definite territory for each Branch; *b.* a minimum number of meetings to be held during the association year; *c.* an annual report to be rendered at the annual meeting of the parent organization; *d.* such other details as may be necessary to obtain the greatest possible return for the money spent by the parent organization."

The above motion is seconded by E. G. Eberle. It will be regarded as *Motion No. 46 (Systematizing Work of Local Branches)*.

The undersigned members of the American Pharmaceutical Association residing in the state of Nebraska hereby petition the American Pharmaceutical Association for a local branch of that Association to be known as the Nebraska Branch. This branch will have its headquarters in the city of Lincoln and all meetings will be held in the city of Lincoln. The address of the Branch will be Station A, Lincoln, Nebr.

(Signed) Elsie Day, Edmund Ommen Haschenburger, Rufus Ashley Lyman, Rudolph L. Meier, Albert Schneider, Don Caesar Weber, William Ludwig Schultz, Edward Harvey Dort, Samuel E. Ewing, Autumn Vine Pease, Will Brookley, Niels Mikkelsen, Daniel Jacob Fink, Guy Butler, Lewis William McConnell, Orel Jones, James Harvey Green, Herbert Franklin Gerald, Emil Cermak, Henry R. Gering, Irving McEwen, Leland A. Johnson, Andrew B. McConnell, Howard Chamberlain Newton, Charles Rollin Sherman, Albert L. Schuhl, Warner A. Piel, Edward Frank Beranek, Daniel J. Hoye, James G. Mauzy, Frederick George Fricke, and Karl M. Thelen.

Motion No. 47 (Organization of Nebraska Branch). Moved by E. G. Eberle, seconded by J. W. England, that the above petition be granted and the proposed organization be approved.

J. W. ENGLAND,
415 No. 33RD STREET. *Secretary.*

A. PH. A. COUNCIL LETTER NO. 30.

PHILADELPHIA, PA., March 25, 1920.

To the Members of the Council:

Motion No. 36 (Recommendation on Annual Address of President); Motion No. 37 (Ex-Presidents as ex-Officio Members of the Council); Motion No. 38 (Special Problems for Discussion by State Associations and Local Branches); Motion No. 39 (Nomination and Election of Officers); Motion No. 40 (Increase of Annual Dues as Special Order of Business at First Council Meeting of Next Annual Meeting); Motion No. 41 (Removing Restriction from Recommendation No. 6 for Rebate of Annual Dues to Local Branches; rebate to be given only if annual dues are increased); Motion No. 42 (Discontinuance of Permanent Certificate of Membership); Motion No. 43 (Department of Commercial Interests in Journal, and Motion No. 44 (Publication of Annual Report of Treasurer), have each received a majority of affirmative votes.

The Executive Committee recommends to the Council the passage of the following resolution: "That the action proposed by George M. Beringer in appended communication, addressed to the Executive Committee, be approved, and that the Chairman of the Council be authorized to name a special committee of three with power to act and with power to add to its number if desired."

This will be regarded as *Motion No. 48 (Action on Change of Classification of Pharmacists as Retail Liquor Dealers)*.

The communication of Mr Beringer reads:

"To the Members of the Executive Committee:

"Further information at hand, concerning the recommendation that *Pharmacists* be classified by the Treasury Laws and Regulations as *Pharmacists* and not as R. L. D.'s, is the reason for this communication. I am heartily in accord with the comments of the Secretary regarding "Liquor Traffic in Drug Stores" but am of the opinion that under existing laws, regulations and conditions that is a thing of the past. The Volstead Act recognizes the sale of distilled spirits and wines for medicinal purposes or religious rites or for industrial manufacture only and places upon the pharmacist alone the responsibility of supplying these for *medicinal uses*.

"The prescribing and the obtaining of the necessary supplies and the dispensing and all phases of the medical use seem to be hedged about by ample restrictions and accountings that should limit the pharmacist to the performance of his professional service in the dispensing of such bona fide prescriptions and no odium should attach to him for discharging this duty imposed by law. The pharmacist who would violate this act and prostitute the high calling of pharmacy by engaging in the 'liquor traffic' will be soon detected and for such, ample punishment is provided. The pharmacist surely has now an opportunity of insisting that he be eliminated from the classification of Retail Liquor Dealer and that in accordance with the wording of this Act he be recognized by the Treasury Department as *Pharmacist*.

"A few days since, I had an interview with Congressman William J. Browning, representing this N. J. District and discussed at length with him this proposition. He agreed that an Act of Congress would be necessary to change the classification and appreciated the justness of the pharmacists being relieved from the odium of being classed as Liquor Dealers. He expressed a willingness to introduce a correcting measure in the House if we would have such a bill drawn. He frankly expressed his opinion that it would be very difficult to have this enacted at the present session of Congress and that if the drug trade desired such action they must get back of such a bill. Nothing in this line could be accomplished without the approval of the Committee on Ways and Means and he suggested that, as a preliminary step, an interview should be arranged with Representative Fordney, the chairman of that committee, and offered to arrange for such whenever I desired. It would appear to me that this is an opportunity that should be taken advantage of and a procedure that it would be wise to follow.

"Possibly, the Drug Trade Conference would be the proper body to father such action and the A. Ph. A. and the N. A. R. D. and the State Associations the mediums for working up the sentiment. Anyhow, the matter is up to the Executive Committee for consideration as to the wisdom of the proposed action."

Mr. Beringer stated further to the Executive Committee that:

"It would appear from letter No. 10 of the Executive Committee that I had failed to make myself clear in advocating a congressional enactment that would amend the Treasury Laws and Regulations so that pharmacists in complying strictly with the provisions of the Prohibition Enforcement Act should not be classified as retail liquor dealers.

"The question of temperance or of prohibition against beverage liquors is not at all germane and I will dismiss this with the statement that I am now as always heretofore heartily in accord with Mr. Hopp in denouncing the sale by pharmacists of alcoholic liquors of any character excepting as remedial agents on bona fide prescriptions. The case he refers to, if based upon actual occurrences, should be reported to the government officials and the pharmaceutical bodies should exercise their right of purging pharmacy by the exclusion from membership of such flagrant violators of the spirit and letter of the congressional enactment.

"The determination whether distilled spirits and wines are medicines does not primarily belong to the pharmacist, and it is not within the province of the pharmacist to question the judgment of the physicians who deem these as proper medicines to be prescribed.

"The omission of whiskey and brandy from the U. S. P. was not based upon either moral reasons or failure to recognize the use of these as medicines by many reputable practitioners. The Committee on Scope, the Executive Committee of the Committee of Revision and the General Committee of the Committee of Revision all voted for the admission of these titles and appropriate monographs were prepared and adopted by the Sub-Committee."

Motion No. 49 (Election of Active Members). You are requested to vote on the following applications for active membership.

No. 214. Walter Graham McLean, U S. Naval Station, Tutuila, Samoa, rec. by A. J. Link and D. J. McMullin.

No. 215. Robert P. Ancell, 1596 S. Pearl St., Denver, Colo., rec. by L. L. Alkire and J W. England.

No. 216. L. R. Hanay, 1100 Santa Fe St., Denver, Colo., rec. by L. L. Alkire and J. W. England.

No. 217. J. Fred Doyle, 740 E. 18th Ave., Denver, Colo., rec. by L. L. Alkire and J. W. England.

No. 218. Carl H. Shirley, 2622 Champa St., Denver, Colo., rec. by L. L. Alkire and J. W. England.

No. 219. Arche G. Ajer, 1801 Wellon St., Denver, Colo., rec. by L. L. Alkire and J. W. England.

No. 220. Roy Allen White, 3605 W. 32nd Ave., Apt. 8, Denver, Colo., rec. by Chas. J. Clayton and L. A. Jeancon.

No. 221. Gaetano Zingales, 104 Walnut Ave., Cranford, N. J., rec. by H. J. Goeckel and Edward A. Wickham.

No. 222. LeRoy Newbem, 3434 E. 12th Ave., Denver, Colo., rec. by Chas. J. Clayton and L. A. Jeancon.

No. 223. Arthur Bosio, 950 Howard Ave., New Orleans, La., rec. by Robert F. Grace and M. J. Castrix.

No. 224. Andrew P. Armbruster, 1532 Dryades St., New Orleans, La., rec. by Robert F. Grace and F. C. Godbold.

No. 225. Dr. Antonio Capari y Fernandez, Marti No. 62, Fuhuta, Cuba, rec. by H. M. Whelpley and J. W. England.

No. 226. Jacob Wallace Lough, 3415 Wallingford Ave., Seattle, Wash., rec. by C. W. Johnson and A. W. Linton.

No. 227. Segmond H. Bauer, 4139 St. Charles Ave., New Orleans, La., rec. by Robert F. Grace and Henry Welsch.

No 228. Miss Jean Robin Wilkes, 1510 Melrose Ave., Seattle, Wash., rec. by C. W. Johnson and F. Edith Hindman.

No. 229. Bella Kracower, 939 16th Ave., No., Seattle, Wash., rec. by C. W. Johnson and Geo. H. Needham.

No. 230. Frederick Valentine Lofgren, 2042 W. 63rd St., Seattle, Wash., rec. by C. W. Johnson and Geo. H. Needham.

No. 231. Mrs. Elizabeth Roberts, 718 17th Ave., Cor. Cherry St., Seattle, Wash., rec. by C. W. Johnson and Geo. H. Needham.

No. 232. Bessie Mabel Shone, 212 Alder St., South Bend, Wash., rec. by C. W. Johnson and Geo. H. Needham.

No. 233. Arthur Elmer Stickels, 851 Eutaw St.. No. Baltimore, Md., rec. by James A. Black and Otto W. Muhlhause.

No. 234. Samuel Manuel Marmor, 56 Astor St, Boston, Mass., rec. by Irving P. Garmon and C. Herbert Packard.

No. 235. Lottie Hargreaves, 2725 N. Front St., Philadelphia, Pa., rec. by J. W. England and E. G. Eberle.

Motion No. 50 (Election of Soldier and Sailor Members). You are requested to vote on the following applications for Soldier and Sailor membership:

S. S. No. 637. Paul Camp Moreland, 522 N. 11th St., Richmond, Va., rec. by W. F. Rudd and Morris Phipps.

S. S. No. 638. George Franklin Carswell, Box 436, Americus, Ga., rec. by J. C. Wheatcroft and W. B. Day.

S. S. No. 639. Robert Lee Smith, Valdosta, Ga., rec. by J. C. Wheatcroft and W. B. Day.

S. S. No. 640. William Y. Faircloth, care Albany Drug Co., Albany, Ga., rec. by J. C. Wheatcroft and W. B. Day.

S. S. No. 641. W. G. Taylor, Pelham, Ga., rec. by J. C. Wheatcroft and W. B. Day.

S. S. No. 642. George H. Taylor, Box 43, Americus, Ga., rec. by J. C. Wheatcroft and W. B. Day.

S. S. No. 643. Thomas E. Ryan, 616 N. Sherman St., Lincoln, Ill., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 644. Irwin Mathews Satterwhite, 10 Halsey St., Charleston, S. C., rec. by W. H. Zeigler and J. M. Jordan.

S. S. No. 645. Leonard Mooney Call, P. O. Box 23, Notre Dame, Ind., rec. by R. L. Greene and Emil Reyer

S. S. No. 646. Ladislav Joseph Vacek, Wallis, Texas, rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 647. Joseph Lemuel Lee, Branford, Fla., rec. by John Wheatcroft and W B. Day.

S. S. No. 648. James J. Better, Better Pharmacy, Jacksonville, Fla., rec. by John C. Wheatcroft and W B. Day.

S. S. No. 649. Jeff Brown Adom, 223 Main St., Jacksonville, Fla., rec. by John C. Wheatcroft and W. B. Day.

S. S. No. 650. John Barry Roche, 1823 E. Beaver St., Jacksonville, Fla., rec. by John C. Wheatcroft and W. B. Day.

S. S. No. 651. J. V. Ferreira, 25 W. Duval St., Jacksonville, Fla., rec. by John C. Wheatcroft and W. B. Day.

S. S. No. 652. Antonio A. DeLage, Branford, Fla., rec. by John C. Wheatcroft and W. B. Day.

S. S. No. 653. Lorance Robert Spencer, 511 Wyoming Ave., West Pittston, Pa., rec. by Charles H. LaWall and W. D. Walters.

S. S. No. 654. Walter Joseph Duda, 241 East Main St., Fall River, Mass., rec. by W. D. Walters and R. P. Fischelis.

S. S. No. 655. John B. Vernoy, 28 First St., So. Glens Falls, N. Y., rec. by Chas. H. White and C. P. Callus.

S. S. No. 656. Francis Edgar Phelan, 929 N. Logan St., Lincoln, Ill., rec. by Joseph M. Knochel and D. L. Rowe.

S. S. No. 657. Robert Lee Hickman, Checotah, Okla., rec. by Robert M. Sulson and W. C. Alston.

S. S. No. 658. William Henry Lahmeyer, 2221 Stuart Ave., Richmond, Va., rec. by J. Q. Callanan and P. A. Fowler.

S. S. No. 659. Merry Jesse Rodgers, 1439 Jackson St., Seattle, Wash., rec. by W. D. Walters and Frank H. Freericks.

S. S. No. 660. Charles Walter Folkestad, 535 S. 4th St., Missoula, Mont., rec. by Chas. E. Mallet and F. J. Zuck.

S. S. No. 661. Millard A. Rose, 436 S. Tracy Ave., Bozeman, Mont., rec. by Chas. E. Mollett and F. J. Zuck.

S. S. No. 662. Heber Tullis Porter, 340 Univ. Ave., Missoula, Mont., rec. by Chas. E. Mollet and F. J. Zuck.

S. S. No. 663. Kirby Truluck McKinney, 109 Lavanil Ave., Greenville, S. C., rec. by W. H. Zeigler and J. M. Jordan.

S. S. No. 664. William Ross Padgett, 130 Russell St., W. Lafayette, Ind., rec. by C. B. Jordan and Chas. O. Lee.

S. S. No. 665. Burton E. Loveland, 4036 W. Jefferson St., Ecorse, Mich., rec. by B. P. Edmonds and Leonard A Seltzer.

S. S. No. 666. Charles A. Sager, 194 Howard St., Detroit, Mich., rec. by B. P. Edmonds and Leonard A. Seltzer.

415 No. 33RD STREET. J. W. ENGLAND, *Secretary*.

A. PH. A. LETTER NO. 31.

PHILADELPHIA, PA., April 6, 1920.

To the Members of the Council:

Motion No. 45 (Substitute Motion for Motion of H. V. Arny of Council Letter No. 25); Motion No. 46 (Systematizing Work of Local Branches); Motion No. 47 (Organization of Nebraska Branch); Motion No. 48 (Action on Change of Classification of Pharmacists as Retail Liquor Dealers); Motion No. 49 (Election of Active Members); applications of Nos. 214 to 235 inclusive); and Motion No. 50 (Election of Soldier and Sailor Members; applications Nos. 637 to 666, inclusive) have each received a majority of affirmative votes:

H. V. Arny writes:

"On March 8 we effected the organization of the Nation Publicity Committee which culminates the work of the A. Ph. A. Federation Committee, and which I believe will lead to large results. At this meeting attended by representatives of all of the National Drug organizations excepting the Manufacturers Association, the temporary organization was effected with Mr. C. H. Waterbury, of the N. W. D. A., chosen as temporary chairman and Dr. Robert P. Fischelis as temporary Secretary-Treasurer. The tentative plan adopted at the A. Ph. A. meeting last

August was given careful study and modified in several ways; the only important amendment being that the Committee, by unanimous vote, decided that the news material sent to the lay press should appear in a manifolded bulletin rather than as reprints of the pages of the JOURNAL OF THE A. PH. A. Incidentally, the Committee decided to call itself the Drug Trade Board of Public Information.

"The question of finances was given careful attention and it was unanimously decided that the pro-rating of expenses be upon the basis of moneys received annually by each association for membership dues. As an Emergency Fund is needed it was also decided that each organization be asked to contribute $50.00 in the near future for furthering the work of the Committee until the next meeting, which it was decided to hold in Washington during the A. Ph. A. Week.

"Will you kindly present to the Council in my behalf the information given above along with the motion that the A. Ph. A. contribute $50.00 to the Emergency Fund of the Drug Trade Board of Public Information?"

The above contribution is approved by the Committee on Finance. The motion made by Mr. Arny is seconded by R. P. Fischelis; it will be regarded as *Motion No. 51* (*Contribution of $50 to Emergency Fund of the Drug Trade Board of Public Information*).

Motion No. 52 (*Action on Status of Analytical Chemists under Regulations No. 35 for the Enforcement of the Harrison Law*). Moved by H. C. Fuller, seconded by S. L. Hilton, that the Council call the attention of the Bureau of Internal Revenue to the present inappropriate status of analytical chemists under Regulations No. 35 for the enforcement of the Harrison Law, setting forth the reasons for this, and that a modification of these regulations be made, placing analytical chemists in the same class as physicians and other practitioners.

Motion No. 53 (*Election of Active Members*). You are requested to vote on the following applications for active membership:*

No. 236. Charles M. Halium, 203 E. Baker St. Brownwood, Tex.

No. 237. Fayette O. Merrill, 239 S. Graceland Ave., Des Plaines, Ill.

No. 238. Mrs. Marion Odorn, Harvey, La.

No. 239. Gwendolen Doloros Clark, 623 Veneta St., Bremerton, Wash.

No. 240. William Lester Gilliland, 4746 15th Ave., N. E., Seattle, Wash.

No. 241. Gonzalo Casas y Bacallao, Belascoam No. 7½ (Altos), Havana, Cuba.

No. 242. S. Marvin Barley, Post Ave. & Butler St., Westbury, L. I., N. Y.

No. 243. Aurelio V. Renzulli, 337 Fourth St., Jersey City, N. J.

No. 244. Abraham Margulis, 226 Broome St., New York, N. Y.

No. 245. Herbert D. Atwater, 500 Main St., Elmira, N. Y.

No. 246. Harry Fried, 566 Sutter Ave., Brooklyn, N. Y.

No. 247. Abraham Dorb, 3181 Broadway, New York, N. Y.

No. 248. Louis Axt, Richmond Ave., Port Richmond, N. Y.

No. 249. Nicholas W. Peruch, 515 Madison St., New Orleans, La.

No. 250. Bernard P. Martinez, 2100 Robert St., New Orleans, La.

Motion No. 54 (*Election of Soldier and Sailor Members*). You are requested to vote on the following applications for Soldier and Sailor Membership:*

S. S. No. 667. Floyd Harper Qunckenbush, 127 Davison Ave., Detroit, Mich.

S. S. No. 668. Thomas Raymond Maloney, 3795 Archer Ave., Chicago, Ill.

S. S. No. 669. Walter H. Schlack, Granite Falls, Wash.

J. W. ENGLAND,
415 NO. 33RD STREET. *Secretary.*

* In order to save space, the names of the recommenders have been omitted.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman;* G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, E. L. NEWCOMB, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio.*

QUANTITATIVE TEST FOR SACCHARIN.

The *Pharmaceutical Journal and Pharmacist* of March 6, 1920, gives the following method of H. D. Richmond and C. A. Hill for the quantitative determination of saccharin: Of the saccharin to be examined 0.6104 Gm. is boiled for two minutes with 10 Cc. of $\frac{N}{7.5}$ NaOH, when hydrolysis is complete, taking care that no appreciable concentration occurs. Then 15 Cc. of $\frac{N}{10}$ HCl is added, followed by 50 minutes' boiling under a reflux condenser, adding a little powdered pumice to prevent bumping. The liquid is then cooled, 75 Cc. of cold water added, and a current of air passed through the upper part of the flask to remove any acid vapor; 15 Cc. of $\frac{N}{7.5}$ NaOH are added carefully, and the flask at once connected with a distillation apparatus provided with an efficient steam trap, a condenser, and an absorption flask in which are placed 20 Cc. of $\frac{N}{5}$ HCl. The distillation is commenced slowly; after the air has ceased to bubble through the acid the flame is raised, and about 70 Cc. are distilled. The solution is titrated with $\frac{N}{10}$ alkali, using methyl red as indicator, and corrected for a blank test of the reagents. The strengths of the acid and alkali used should not vary more than 2 percent at most from those given above. With 0.6104 Gm. of saccharin the number of Cc. of $\frac{N}{10}$ acid neutralized multiplied by 3 equals the percentage of saccharin.

NASCENCY AS AN INTENSIFYING FORCE IN THERAPEUTICS.

George Lunan contributes an interesting paper printed in the *Pharmaceutical Journal and Pharmacist* of March 27 on above subject. He concludes that if adequate research is applied to this subject there is every prospect of developments that will lead to an immense improvement in therapeutical medication.

It is tolerably well known and understood that rapid ionic activities augment physiological reactions but, in the author's opinion, this is not yet adequately recognized nor evaluated. The following are some of the examples presented in the paper of the benefits of nascency in therapeutics: Wherever rapid ionism is produced by nascent chemical action, either at the time of the exhibition of a remedial agent, or later within the human organism itself, in colloidal form, the physiological reactions are more marked, and in this connection, as the diminished dosage is adequate for completed chemical reactions, this is a material advantage. When glycerite of boroglycerin is hydrolyzed, it is decomposed into nascent glycerin and boric acid. The reaction is an exothermic one, and its nascent products penetrate the mucuos surfaces, and the physiological effect is much stronger than if ordinary glycerin and boric acid had been used separately or uncombined. Peroxide of hydrogen owes much of its therapeutic value to its decomposition into nascent oxygen and water. The quinine in ammoniated tincture of quinine, when diluted with water, is resolved into the alkaloid in a nascent state, and in the acid medium of the stomach is converted into salts in the nascent condition. Consequently it is much more active than the staler and more sluggish, because less recently formed, compounds of quinine. The neutralizing ammonium constituent in the diluted tincture, while retarding, yet lends itself to the reaction, and the consequent ionic mobility largely magnifies the physiological potency of the quinine.

Theoretically, hydriodic acid should replace the alkaline iodides in iodine therapeusis and give much more satisfactory results with a smaller dose of the absolute quantity of the elementary metal. Hitherto the difficulty of prescribing and dispensing the acid with diluents or other medicaments or media has prevented its general use. What is wanted is a stable organic base which would readily yield nascent iodine in minute quantity shortly after ingestion. Such a preparation would mark a signal advance in iodine medication that

would greatly benefit the patients for whom this treatment is necessary.

ADMINISTRATION OF DIGITALIS.

Quoting from an abstract of a recent issue of the *Journal of the American Medical Association*, the points which Pardee emphasizes relative to the administration of digitalis are: The initial dose must be sufficient to bring the patient to the stage of slight poisoning, which cannot be accomplished within a reasonable time unless we use doses larger than have been used ordinarily heretofore. If a continued digitalis effect is desired, it will not be obtained satisfactorily unless the patient is kept at high level of saturation with the drug; his body must be nearly full, not nearly empty, or any failure to obtain good results cannot be interpreted as a failure of digitalis therapy. The nausea and vomiting which result from digitalis poisoning can be avoided if special care is used in observing the patient during the periods when he is receiving a daily dose which is above the average rate of 20 minims of the tincture a day at which the body can dispose of the drug. The variable susceptibility of different patients is an important thing to recognize. The amount of digitalis which will cause the appearance of these early signs of poisoning bears a definite relation to the weight of the patient. On the average a total dose of 2 minims of the tincture to each pound of body weight will produce these early toxic signs. If a patient, whose susceptibility is greater than the average, should receive such a dose, he would certainly be in danger of fibrillation of the ventricular muscle, and death. Those patients whose susceptibility for digitalis is less than the average must also be borne in mind. Therefore, if the average dose is insufficient to produce clinical improvement, and has not caused the appearance of toxic signs, continue to give the drug, watching carefully for the signs of early poisoning and not stopping digitalis until they appear. The average rate at which the body disposes of the drug Pardee found to be 22 minims of the tincture a day, but here, again, there are considerable variations from one individual to another, as low a rate as 10 minims and as high as 40 minims daily being encountered. In spite of this the dose of 10 minims, twice a day, beginning three or four days after an initial digitalization, will not bring any patient to the toxic stage again very quickly, even though he may dispose of the drug at a much slower rate than the average.

THE ADVERTISING OF EDUCATION.

Secretary W. J. Woodruff, of the American Drug Manufacturers' Association, in his report at the recent meeting of that organization, emphasized the need of publicity for pharmacy. In his opinion, the public should be made better acquainted with the ideals of pharmacy, its problems, and the interest that the public has in the pharmaceutical industries. It would detract from this valuable contribution to prepare an abstract, so it has been deemed best to quote parts of the report in full and leave deductions to the readers. Other industries have broadened the vision of the people as to the useful possibilities of their activities; why should not the pharmaceutical industries do likewise?

"It has long been a belief of the ethical medicinal manufacturer that, since his sales leverage is on the physician, any advertising of a popular nature would be a lethal dose to his business. Like a good many other business traditions, it has been accepted as an axiom unnecessary of proof. A little effort to think all around the subject would, I believe, dethrone it from this position just as many other so-called business axioms have been dethroned by some hewer of new trails who has made an undreamt-of success largely because he disregarded the rules of the game and played it in a new way.

"The ban of the medical profession against advertising to the public is based on the very laudable principle that the calling of the physician is too noble to be made a subject of commercial exploitation. It was imposed in the days when advertising was a crude thing of 'best on earth' boasts in brazen and ugly display and when a business man had no other vision of advertising than as a medium of telling greater numbers than his salesmen could reach that he had something that he wanted them to buy. It is the very antipodes of the educational advertising of the sort proposed here, advertising that seeks only to enlighten and whose physical nature is commendable from both literary and artistic standpoints. The prejudice of the physician against advertising that goes to the people should not be regarded as rock that absolutely bars the passageway. It may be a rock, but there are plenty of passages around it, and it is only a case of steering wisely to evade it. It simply means

that care must be exercised to avoid the slightest exaggeration, the slightest misstatement, the slightest suggestion of idle boasting, or the slightest tendency to lower the dignity of the medical profession or to commercialize human suffering. These are negative virtues and, not content with their observance, we should seek to impart qualities to our advertising that would positively tend to win the commendation of the physician.

"Copy of a restrained tone written in a style that would reflect lofty sentiment could not do otherwise than impress him favorably; neither could an illustration artistically picturing some of the nobler aspects of the physician's art, or some altruistic phase of medicinal manufacture. And if the advertising treated of the whole cycle of the healing art, the physician, and the pharmacist, as well as the manufacturer, picturing to the people the public service the physician and pharmacist render, your advertising would not only be unobjectionable to him but it would be a positive agency in cementing his good-will, and the good-will of the druggist as well."

STYLE OF COPY RECOMMENDED.

"And now let me give you a concrete illustration of how such copy as I have described could be used to cultivate a sympathetic public attitude and at the same time the good-will of the physician and the druggist. It is hurriedly written without due consideration of the points of which the first advertisement should treat, and falls far short of literary merit, but it serves to illustrate the style that I am trying to explain.

" 'When the faint glow of the last ember of life brightens under the ministrations of the physician at the bedside, and your loved one comes back to you from the brink of the Great Shadow, your heart, for the first time, wells up with all the gratitude that this, humanity's greatest earthly friend, deserves.

" 'You repay him then in speechless thankfulness for his sleepless nights of watching, his midnight hours of study, and the sunny holidays of youth spent in sombre college laboratories. And in your gratitude, think sometimes of his silent partners—the workers to whose tireless research and exacting care are due the contents of the bottle with which the magic was wrought.

" 'The genial proprietor of the corner drug store may seem simply an obliging merchant to whom you are indebted for a hundred little services, but, he too, is a professional man—a pharmacist who has paid his toll in arduous study. Had he erred in the pharmacist's delicate, hairline task of filling the prescription, the physician's skill might have only served to mend the ravages of your passionate grief.

" 'And behind the physician and the druggist is the great army in the manufacturing establishment in which the ingredients of the prescription were made. The bateriologists, the pathologists, and the research chemists who, in the face of a weary chain of failures, developed and perfected the formulas. The financial captains who unflinchingly watched thousands upon thousands of dollars sunk in fruitless experiments before the first glimmer of success. And the workers who throughout every step of the transformation of the crude chemicals into the finished preparation tested and retested its power and purity.' '

AIMS OF THE CAMPAIGN.

"Every advertising campaign that hopes for conspicuous success should be carefully planned from beginning to end before the first piece of copy is written. Its aims should be carefully defined and every individual advertisement should be prepared with that aim in view, in order that each may contribute to the continuity of impression that means advertising success. What the points should be in the first campaign of this industry is a matter for careful discussion. I would venture the suggestion, however, that

"1. It should explain the mission of each of the principal factors in the drug and medical worlds and endeavor to impress the public with their worthiness and their vital consequence. This would make such a campaign seem more altruistic and help to instill in the public an impression that the industry is inspired by other than purely selfish motives. It would, moreover, increase the good-will of these other factors for the industry and would serve to contribute to

"2. The second aim, which is to awaken the public to the fact that the remedial agents of the medical profession do not 'just grow' but are the product of a distinct industry.

" 3. Thirdly, it should impress the people with the fact that this industry is imbued with the ideal of the medical profession and that while it is naturally looking for a reasonable profit its zeal to serve the public and the profession will brook no sacrifice in quality or service.

"4. That it is to the medicinal manufac-

turer that Medicine owes the development of its medicinal agents, and

"5. That there is no industry in whose welfare the average individual has a greater interest, that undue restraint on its liberty of action hampers one of the biggest factors in medical progress, and that it is to the interest of the public to safeguard its production in times of embargoes, shortages, and other adverse conditions."

DEATH LIST COMMERCIALIZED.

The *Home Sector* states that the newest type of opportunist has been discovered, the man who attempts to prey upon the families of the soldiers who fell in the war. His simple scheme is outlined in the following letter, one of several of its kind recently received:

"One of my relatives who served in the war was killed in France. His sister, who was his next of kin, and to whom his insurance is being paid, has been receiving a great deal of mail matter of every kind addressed to the nearest relative of Howard ————. Evidently someone carefully looks over the casualty list and peddles these names around because mail of all sorts, varying from prospectuses of oil schemes to circulars for memorial books, are being sent out."

It is apparent that the casualty lists of the recent war are being commercialized. The worst of the situation is that there is no legal means of preventing their use. They became public property when they were printed in the newspapers, and any promoter may use them without fear as long as his scheme is not so nebulous that it comes within the jurisdiction of the post-office inspectors.

The War Veterans' Section might warn the relatives of our dead to scan their mail with care, and if the practice becomes aggravated endeavor to expose the schemers.

BEQUESTS AND DONATIONS.

The following bequests and donations have recently been announced:

University of Cambridge, England, a donation of $100,000 for the erection and equipment of an institute for parasitological research, with an additional $50,000 for its upkeep and maintenance, by Mr. and Mrs. A. P. Molteno.

The Ontario Honorary Advisory Council for Scientific Research has made provision for forty bursaries, studentships, and fellowships to be awarded to qualified science graduates who will prepare for a career in scientific research in connection with the natural resources of Canada.

Toronto General Hospital, a donation of $250,000 toward lifting the debt on that institution, by Sir Joseph Flavelle.

Grant Hospital, Chicago, $10,000, Alexian Brothers Hospital, Chicago, $5,000, by the will of Jacob Birk.

Emergency Hospital, Chicago, $400,000 by the will of Captain Charles Haines, St. Charles, Ill.

Henry Phipps Institute, Philadelphia, a donation of $500,000 by the family of Henry Phipps.

St. Vincent's Hospital, New York City, $100,000; Cancer Hospital, New York City, and Brooklyn Hospital, $25,000; Brooklyn Home for Consumptives, $20,000, by the will of Daniel J. Carroll, New York City.

COPIES OF REPORT OF THE SURGEON GENERAL NOT AVAILABLE.

According to law, only 2,500 copies of the report of the Surgeon General can be printed, and additional copies cannot be printed without a special act of Congress. We are informed by Surgeon General Ireland that all of the copies of the 1919 report have been distributed, and that it is impossible to obtain a special act for the printing of additional copies at this time.

BUILDING FOR ARMY MEDICAL SCHOOL.

The Army appropriation bill contains a provision for the expenditure of $500,000 for suitable buildings to be used by the Army Medical School on the Walter Reed Hospital grounds at Washington, D. C. It is left to the discretion of the Secretary of War and the Surgeon General to determine the kind and character of such buildings. The bill carrying this appropriation has been favorably reported to the House of Representatives by the committee on military affairs.

This is said to be the beginning of what is expected to be the largest medical center in the country. The plans now being drafted call for the assembling of the army medical school, nurses' school, medical museum and library, at an estimated cost of $10,000,000. The work of medical reconstruction and physiotherapy will be carried on in the enlarged institution and adequate headquarters will be provided for the entire hospital corps.

PERSONAL AND NEWS ITEMS.

Harry B. Mason, Director of Promotion, Publicity and Advertising, has been elected a member of the Board of Directors of Parke, Davis & Co., filling the place made vacant by the death of Frank G. Ryan. As president, the latter is succeeded by James E. Bartlett, heretofore Director of Sales for the Company.

John E. Jackson, who has been the presiding officer of the Virginia Board of Pharmacy for the past five years and served two full terms on the Board, has retired. Mr. Jackson has large credit for Virginia's prerequisite law and it may be assumed that this is the crowning event of his administration.

Prof. Wortley F. Rudd, head of the Department of Chemistry in the Medical College of Virginia, is also dean of the School of Pharmacy of that institution. During the past year he was president of the American Conference of Pharmaceutical Faculties.

William James McGill, holder of the Stearns' Fellowship at the College of Pharmacy, University of Michigan, is now engaged in research work on the active principles in Digitalis.

Charles M. Carr, formerly editor of the *N. A. R. D. Journal,* is now connected in an editorial capacity with the *Western Druggist,* of Chicago. E. D. Irvine, who has been with the Engelhard publication for a period of about twenty-five years, continues as managing editor and business manager.

Prof. Henry G. Greenish, of the School of Pharmacy of the Pharmaceutical Society of Great Britain, who is an honorary member of the A. Ph. A., advises that the school has 170 students instead of the usual number of about seventy.

Prof. Charles T. P. Fennel, dean of the Cincinnati College of Pharmacy, who has been seriously ill for some time, is reported on the way to recovery.

Dr. James Rowland Angell has been elected president and chief executive officer of the Carnegie Foundation. He is internationally known as a scientist and is the chairman of the National Research Council. During the war Doctor Angell was instrumental in the formation of student army training corps. In 1914 he was appointed exchange professor to The Sorbonne, Paris. He has been with the University of Chicago since 1894. In 1908 he became dean of the Senior College, and in 1911 dean of the faculty.

Dr. George Hohmann, professor of Materia Medica at Fordham University, is also Associate Coroner's Physician to the City of New York.

Robert R. Gerstner is chemist of the Oil Products Company, Inc.

Herbert M. Payne, of Detroit, Mich., has sold the pharmacy he recently opened at Philadelphia and Oakland to **Harvey D'Amour,** a veteran of our world war, who went through the thickest of it and returns to us to take up his life's work again minus both legs. Associated with him in the venture is **Arthur Berman,** formerly a chemist at Harper Hospital.

W. E. Bingham, prominent in national pharmaceutical councils, has sold his store at Tuscaloosa to **Charles T. Corwin.** Mr. Bingham was president of the Alabama Pharmaceutical Association from 1897 to 1899, has been its secretary since 1901, and a member of the Alabama Board of Pharmacy for many years.

Melmoth M. Osborne, druggist at Elkins Park, Pa., for many years, has retired from business and now resides at Radford, Va.

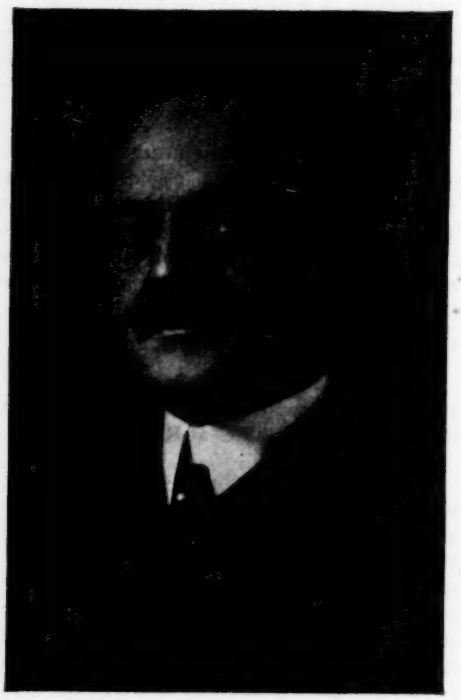
C. M. Woodruff, general counsel of the American Drug Manufacturers' Association, has gone to California in quest of health. In speaking of him, President Stofer said: "Unquestionably, during the past three or four months we have very keenly felt the absence of one of our most loyal and constructive members—one who was present at the birth of this association, and who then builded even better than he knew. C. M. Woodruff's health was such that it was necessary for him to leave the vigorous Northern climate for the more health-giving, balmy atmosphere found in the State of California. We sincerely trust that his health has been fully restored and that a beneficent Providence will spare him to us for many years, and that we may continue to profit by his counsel and advice."

The Australasian Journal of Pharmacy, established originally in 1866, has been taken over lately and is now published as the official Federal journal of the associated pharmaceutical organizations of Australia.

OBITUARY.

FRANK GIBBS RYAN.

Frank G. Ryan, president of Parke, Davis & Company, died from pneumonia on the afternoon of April 20, after an illness of only three days. Funeral services were held at Christ Church, in Detroit, on April 22. The active pallbearers were selected from an intimate group of his associates in the Company, and comprised John M. Francis, E. M. Houghton, Harry B. Mason, E. R. Larned, Harry L. Russell, and Selby S. Coleman. There were about forty honorary pallbearers representing the Board of Directors of the house and other close friends.



F. G. RYAN

Mr. Ryan was born in 1861, in Marcellus Falls, N. Y., and was educated in the public schools of Elmira. After several years' experience as a drug clerk, in the pharmacy of Brown & Dawson, Syracuse, N. Y., he entered the Philadelphia College of Pharmacy and was graduated therefrom in the class of 1884. Shortly thereafter he was appointed to a position on the college staff, and he remained a member of the faculty for fourteen years. During the summer months, in order to use his leisure productively, he did sales and detail work for Parke, Davis & Company, and finally in June, 1900, he severed all other connections and joined the staff of that house in the capacity of chief pharmacist. Within three years thereafter he began passing through a remarkable series of promotions. He was first elected to membership on the Board of Directors; he was next made secretary of the corporation, then elevated to the vice-presidency. In April, 1907, he became president of the Company and occupied this office until his death.

Mr. Ryan was pre-eminently a man who carved out his own career from the hard rock of opportunity. He rose from the ranks of drug clerks to a position of commanding influence in the pharmaceutical world. For many years he played an active and prominent part in the affairs of the American Pharmaceutical Association. In 1893, he was secretary of the Scientific Section and in 1901 its chairman. Later on he became one of the founders of the American Drug Manufacturers' Association, and served as president of this organization during the first two years of its existence. In the civic and industrial life of Detroit he was a leading figure, and from time to time was found on the personnel of important public committees. He was a member of the Country Club, the Yondotega Club, the Detroit Club, the Detroit Boat Club, and the Detroit Athletic Club. Two of these organizations—the Detroit Club and the Country Club—he served in the capacity of president.

In business life he was an aggressive leader, but above all and beyond all he was a man of the highest and deepest sense of honor. Integrity, indeed, was his dominant characteristic. His death is a severe blow to his innumerable friends in the drug trade, and a very great loss to the corporation over whose destiny he presided for a period of thirteen years.

Mr. Ryan is survived by a daughter, Mrs. Chas. A. Dean, Jr., a brother, George Ryan, York, Pa., a sister, Mrs. Maude Roth, Lancaster, Pa., and a grandson, Chas. A. Dean, 3rd.

SOCIETIES AND COLLEGES

COMPLIMENTARY DINNER TO PRESIDENT-ELECT PACKARD.

A complimentary dinner was tendered to President-elect C. Herbert Packard, of the American Pharmaceutical Association at the Boston City Club on Wednesday evening, April 28, 1920. Invitations had been sent to a selected list of representative men in different branches of the drug trade and who had been associated with Mr. Packard in his varied activities.

After the dinner, Dean Theodore J. Bradley of the Massachusetts College of Pharmacy acted as toastmaster and responses were made by Edgar L. Patch, ex-president of the American Pharmaceutical Association; James F. Finneran, ex-president of the National Association of Retail Druggists; Charles C. Hearn, president of the Massachusetts State Pharmaceutical Association; Dr. Frank Piper, vice-president of the Massachusetts College of Pharmacy, and others, after which John G. Godding, also an ex-president of the A. Ph. A., presented the guest of the evening with a souvenir of the occasion in the shape of a gold pencil, and Mr. Packard spoke feelingly of his appreciation of the honor done him by the Association and the members present.

The committee of arrangements consisted of Messrs. Irving P. Gammon, chairman, John G. Godding, John J. Tobin, and Charles A. Stover. The standing of the men present and the enjoyable character of the speeches made the occasion one that will be remembered with pleasure.

TOPICS FOR DISCUSSION BY STATE ASSOCIATIONS AND OTHER PHARMACEUTICAL ORGANIZATIONS.

Complying with the following resolution, topics for discussion by pharmaceutical organizations have been sent out by the Secretary of the Council of the American Pharmaceutical Association:

"That the Executive Committee of the Council outline each year special problems for the State Associations and the Local Branches to discuss and take appropriate action; members of the Executive Committee to submit topics, which will be submitted by the Secretary of the Committee to its members for selection by vote. The selected list is then to be sent to the President and Secretary of each State Association and Local Branch, these officers to be asked to report on the action taken in relation thereto."

TOPICS FOR DISCUSSION.

1. Pre-requisite Legislation.—That in the States in which the pharmacy law of the state does not require a standard for preliminary education and also graduation from an accepted school of pharmacy, an amendment to the pharmacy act or a new law be framed that will carry into effect these provisions within such states. It is essential to the professional status of pharmacy that this preliminary be firmly established throughout the entire United States.

2. American Pharmaceutical Research Endowment.—That every Local Branch and State Association be urged to support and enthusiastically advocate the American Pharmaceutical Research Endowment.

3. Elimination of Classification as Retail Liquor Dealers.—That a law amending the Treasury Laws and Regulations regarding the classification of the Retail Liquor Dealer be drawn and its passage urged so that the pharmacist, who, by the Volstead Act, becomes the only dispenser and seller of alcoholic liquors at retail, is classified in accordance with the wording of that law as "Pharmacist," and the dispensing of such liquors as medicines becomes simply a part of his professional service. This is necessary not only to relieve him of the odium and the tax of $25.00 imposed upon all Retail Liquor Dealers but also to relieve him from the prohibitive tax in local option or prohibition territory of $1,000, as fixed by Section 1001, paragraph 12, of the Revenue Act of 1918.

4. The Metric System of Weights and Measures.—The metric system is the official system of weights and measures. It is admittedly the simplest and most scientific system ever devised, but it is rarely used in medical and pharmaceutical practice. How can the universal use of the metric system by physicians and pharmacists be best promoted?

5. The Liquor Traffic in Drug Stores.—With the enactment of the Federal Prohibition Law the responsibility for the sale of alcoholic liquors at retail has been placed upon retail pharmacists. There is grave danger that the high calling of pharmacy may be prostituted by liquor dealers masquerading as retail pharmacists, selling alcoholic liquors for beverage purposes. How can this be prevented?

Can any better method for the sale of alcoholic liquors at retail be devised than is given in the present regulations of the Bureau of Internal Revenue (Regulation No. 60, 1920)?

6. State Associations and Local Branches.—The State Associations look after the state interests of pharmacy, especially legislative, and the Local Branches look after the local interests of pharmacy, especially scientific and commercial. The former meet once a year, and the latter frequently. Is there not some way of effecting closer coöperation between the members of State Associations who are resident in cities of Local Branches and the members of the Local Branches, so that both organizations may be mutually benefitted?

7. Legitimate Commerical Pharmacy and Illegitimate Commercial Pharmacy.—There is a legitimate commercial pharmacy and an illegitimate commercial pharmacy. The former relates to the buying and selling of drugs and articles reasonably related thereto; the latter has no relation whatever, directly or indirectly, to drugs and related supplies. Like the old fable, the camel of illegitimate commercial pharmacy has his head in the tent of legitimate commercial pharmacy, and it looks as if he would soon crowd out legitimate commercial pharmacy altogether from the modern retail drug store. How can this be best minimized or prevented?

8. What general principles should be embodied in the Codes of Ethics of State Pharmaceutical Associations?

THE WAR VETERANS' SECTION.

While the War Veterans' Section will have met in Washington with the American Pharmaceutical Association, of which they are part, before this issue of the Journal is mailed, the subjoined call is timely. About 2000 names have been enrolled as members and efforts will be made to more than double this membership before the end of the year.

"Every pharmacist who served in any capacity in the Army, Navy or Marine Corps, or who did his, or her, bit in welfare work during the war, is eligible to membership in the War Veterans' Section of the American Pharmaceutical Association and *in the association itself* this year without the payment of dues.

"There are approximately ten thousand pharmaceutically trained men who were connected in various capacities with the Army and Navy, and more than three thousand of them have already been offered an opportunity to join the A. Ph. A. in its efforts to place pharmacy—a military pharmacy in particular—on a higher plane.

"Before any really worth-while results can be obtained it is necessary that the great majority of these ten thousand men unite in a single organization, and that organization can well be the War Veterans' Section of the A. Ph. A.

"There is no red tape connected with 'joining up.' Just address a postal card to the Secretary, W. D. Walters, Post Hospital, Fort Leavenworth, Kansas, and he will do the rest. Or, better yet, write him a letter and tell him something concerning your 'Service record.' An effort is being made to compile a history of pharmaceutical service during the war, and there is no better way of getting the facts than to have them furnished by the men themselves. Let's go!"

ANNUAL MEETING OF AMERICAN DRUG MANUFACTURERS' ASSOCIATION.

"Never in the history of the American Drug Manufacturers' Association has there been a meeting more interesting, fruitful, and worth while than was the four-day session held at the Biltmore Hotel, New York, April 12 to 15. Fresh from the experiences of the reconstruction period, the advent of prohibition and the Volstead enforcement act, the labor strike, transportation, and raw material shortage—to mention only a few of the year's problems—the members of the association foregathered for four days, which proved to be crowded to the limit. A long program, beginning with theories of the electron constitution of matter, pausing a while to consider foreign trade, domestic commercial traveler problems, character analysis in employment, held in solution by the widespread importance to the industry of the question of industrial use of alcohol, buttressed by legislative matters, trade evils and tariff commission reports, and ending in a banquet at which bolshevism and the intimacies of European courts before the war were discussed—such was the gauntlet run by the association.

"Outstanding, and of major importance, was the fact that last year's officers—the entire slate—were held over for service during the coming period. The importance of matters

which the present men alone could carry to a successful finish made it incumbent that the officers do not consult their personal desires but bury these for the good of the whole. It was done; and not reluctantly. President Stofer, although ill and overworked, will be in the saddle, ably assisted by W. J. Woodruff as secretary and Dr. Frederick B. Kilmer, Willard Ohlinger and Burton T. Bush as the three vice-presidents.

"Several important resolutions were before the meetings for adoption. Among them, the more important were: The reaffirmation of the association's stand on compulsory health insurance, the indorsement of the cooperative publicity plan of the American Pharmaceutical Association, the making of a more elastic interpretation of the order-of-business through repeal of Article I of the By-laws, the advocacy of a Federal Tax Commission, and the change in form of the annual proceedings.

"While the program showed a wide range in development, the alcohol question occupied a major part of consideration both by way of three formal discussions as well as by exchange of mutual experience. This matter had apparently been particularly a problem during the year, and the question of control entered prominently into all consideration of the subject. A general statement would include an almost universal experience of the members of the association: That prohibition instead of increasing demand for medicinal preparations containing liberal percentages of alcohol, had, as a matter of fact, brought a decline in their use.

"The social side of the meetings was not neglected. In addition to the programmed entertainment, members found ample opportunity for attendance at theatres, the opera, concert halls and other metropolitan offerings. The banquet was particularly successful. A fortunate selection in speakers brought in both the serious and lighter veins, with the result that the diners were a unit in their approval of the efforts of the Entertainment Committee.

"Monday was given over to the activities of the Scientific Section, created under By-law IV of the Constitution of the Association. Most of the work done at the morning sessions proved to be in the nature of discussions of a variety of topics. The chairman of the Section was Dr. A. R. L. Dohme, of Sharp & Dohme, who brought in his report, which was thrown open for discussion. Monday afternoon was taken up with the work of the Biological Section under direction of its chairman, Dr. John F. Anderson.—*Paint, Oil and Drug Reporter.*

References to the meeting are made in other sections of this issue of the Journal.

CENTENARY OF THE PHILADELPHIA COLLEGE OF PHARMACY.

At the recent annual meeting of the Philadelphia College of Pharmacy, President Howard B. French presented plans for the celebration of the one hundredth anniversary of the institution.

These were enthusiastically received by the College members and a number of details were developed. It was decided to create a large general committee of alumni, College members, and other friends of the Institution, representing every geographical section into which the graduates have gone and all of the direct and allied interests which they represent.

The large committee is then to be divided into a number of sub-committees who will develop the plans for the celebration, including location, new buildings, scientific development, Centenary volume, etc., and the chairmen of these sub-committees are to constitute an Executive Committee, who, with the President, will be directly responsible for the carrying out of the program.

MEMBERSHIP IN THE AMERICAN PHARMACEUTICAL ASSOCIATION OFFERED BY THE MONTANA SCHOOL OF PHARMACY.

The prize memberships in the American Pharmaceutical Association offered in the School of Pharmacy, University of Montana, are as follows: For proficiency in Manufacturing Pharmacy, by F. J. Zuck; in Pharmacognosy, by C. E. Mollet; and in Commercial Pharmacy, by Alex F. Peterson.

MINNESOTA UNIVERSITY ELECTS HEAD.

L. D. Coffman, head of the Department of Education at the University of Minnesota, has been elected president of the institution. He succeeds Dr. Marion L. Burton, who is president-elect of the University of Michigan. Professor Coffman was formerly connected with the school of education at the University of Illinois.

NEW YORK COLLEGE OF PHARMACY.

At the last regular quarterly meeting of the College of Pharmacy of the City of New York, Columbia University, the following were elected officers for the year: *President*, Nicholas Murray Butler; *1st Vice-President*, Charles F. Chandler; *2nd Vice-President*, Wm. Jay Schieffelin; *3rd Vice-President*, Henry C. Lovis; *Treasurer*, Clarence O. Bigelow; *Secretary*, Charles W. Holzhauer; *Assistant Secretary*, Arthur J. Bauer; *Trustee*, to serve one year, Frank L. McCartney; *Trustees*, to serve three years, Jacob Weil, Frederick K. James, Irving McKesson, Theodore Weicker, Edward Plaut.

The speaker of the evening was Professor Curt P. Wimmer, who presented a paper on "Pharmacy and Pharmacists in the Dark Ages," which covered pharmaceutical methods during the earlier Middle Ages when pharmacy, as we know it today, was in its infancy. The paper was illustrated by a large number of lantern slides, giving views of mediæval streets, apothecary establishments, etc.

FORDHAM UNIVERSITY.

A Research Scholarship Fund has been established in Fordham University, College of Pharmacy, to enable a worthy student to continue work in the science of pharmacy and chemistry. April 14, a dance was given to increase this fund. The College gratefully acknowledges the generous contributions of individuals and firms, who appreciate the value of such a scholarship and are helping to maintain it through their liberality. The plans for the establishment of this Research Scholarship are credited to Drs. Diner and Horstman.

TEMPLE UNIVERSITY.

Temple University, class in Pharmacy, 1920, visited the Mulford Biological Laboratories at Glenolden, Pa., April 9. The students were honored guests of the occasion and each received a souvenir program, giving interesting data relating to biological products and an explanatory itinerary of the departments through which they were shown.

MICHIGAN UNIVERSITY MEDICINAL PLANT GARDEN.

A plan of coöperation between the University of Michigan and Frederick Stearns Company has been devised by Dean Henry Kraemer and approved by the Regents of the University for the Medicinal Plant Garden, coöperating with the Botanical Garden of the University in the Arboretum.

It is the purpose to furnish material for investigation and promote research; suggested lines are as follows:

A. Morphological and taxonomic study of the plants.
B. Breeding for yield of drugs and increase of active principles.
C. Critical study of assay methods.
D. Chemical constitution of the active principles.
E. Pharmacological action of the chemical constituents.

In order to be of the greatest value, a garden of medicinal plants should have a close relation to the manufacturing drug industries. It should not only have a great many plants in it, but a number of plants should be grown on a sufficiently large scale to give data which will be of practical value.

UNIVERSITY OF WISCONSIN.

The February Bulletin of the University of Wisconsin Pharmaceutical Experiment Station reports on "The Redistillation of Aqueous Distillates Resulting from the Production of Volatile Oils." Director Edward Kremers says of the work reported on by Prof. E. R. Miller that "it was done for the most part by the latter during the summer vacations while he was connected with the Pharmaceutical Experiment Station as its chemist. Not a small part of the material was laboriously collected by him with his usual care to exclude all foreign plants. The wormwood and tansy were supplied by the Pharmaceutical Garden, a coöperative enterprise between the Office of Drug-Plant and Poisonous-Plant Investigations of the Department of Agriculture and the Pharmaceutical Experiment Station of the University of Wisconsin. The *Canella alba* was distilled in connection with the laboratory course in phytochemistry given at that time by Professor Miller. The wintergreen had been obtained from the Indian Mission near Black River Falls."

Interesting differences exist in the specific gravities of the original oil and recovered oil. There is a variation in the amount of oil recovered with different oils, varying from 6 percent to more than 37 percent. The specific gravities, *Artemisia absinthium* excepted, of the recovered oils were higher than of the main portion of the oil.

THE PHARMACIST AND THE LAW.

INCONSISTENCIES IN HARRISON ACT REGULATIONS.

The following examples of inconsistencies in Harrison Act Regulations are taken from the report of Charles M. Woodruff, Chairman of the Committee on Legislation of American Drug Manufacturers' Association:

"If a dentist desires to buy as few as fifteen or twenty cocaine tablets for dental operations in the original sealed package as carefully put up by the manufacturer, and his local druggist has not registered as a wholesaler, he must send away for them and pay often more than the value of the tablets in transportation charges, for they are not mailable. Here both the local druggist and the dentist are victims of two unjust laws.

"But is this situation in the interest of the public? Let us see. The dentist may not buy fifteen or twenty tablets in the manufacturer's original stamped package from the local druggist—his natural source of supply for such quantity—but he may buy from the same source one thousand or ten thousand if the druggist will but deliver them in another container than the original stamped one.

"It is a crime for a retail druggist to sell the smallest conceivable original stamped package, but there is no limit to the quantity he may sell from the original stamped package. It is inconceivable that Congress ever intended the results that have followed its definition of the terms 'wholesale dealer' and 'retail dealer' coupled with some of the rulings that have been made thereunder.

"Another instance is the ruling that the volume of the content of the package is the basis of the stamp tax rather than the actual narcotic content. Under this ruling we are compelled to pay a stamp tax upon syrup, water, milk, sugar as well as upon harmless drugs which may be in the combination. The more dangerous the form in which the narcotic drug is presented the less the tax. Undiluted, an ounce of morphine is taxed but one cent. Diluted it may be taxed several dollars. The greater the dilution and the less harmful the preparation the greater the tax. Do the President and Congress know that under this law, if one sells an ounce of morphine he pays a tax of only one cent; and if the buyer takes that ounce of morphine and adds water enough to make a solution, each ounce of which contains $^1/_{100}$ grain of morphine, one must pay a tax of $437.50? Is this a tax on morphine or a tax on water? But this is the effect of the second paragraph of Article 66 of the regulations coupled with Article 142 holding in substance that a solution is not a preparation exempted under Section 6.

"The trouble with these inconsistent and unjust laws and regulations is that, while honestly made with the best intentions, they are wrong in principle, and any law wrong in principle is sure to work injustice and oppression.

"Another cause of just complaint is the burdensome record keeping and report features of the regulations that require a needless force of clerks in the department, and in the offices of collectors of internal revenue, as well as in the various laboratories, warehouses and stores of the trade throughout the country. This is an economic waste of man and woman power that in view of the lamentable shortage of labor of all kinds seems almost criminal. The horde of clerks now engaged in useless non-productive detail at Washington, in every government office throughout the land, as well as in the factories and shops of those affected should be released in the interst of the greater and more economical production that the prosperity of the country and reasonable cost of living demand. May we not fittingly close this arraignment by quoting from the indictments against the English king found in our Declaration of Independence?"

"He has erected a multitude of new offices and has sent hither swarms of officers to harass our people, and eat out their substance.,,

WHO ADVOCATE COMPULSORY HEALTH INSURANCE?

[From report of Committee on Social Insurance, A. D. M. A.]

"We should say, after a pretty careful study of the movement compassing several years, that the advocates of compulsory health insurance divide themselves very naturally into the following classes:

"1. The original group of academic doctrinaires and sociologists. These men for the most part are university teachers, and they sincerely believe themselves to be right. Unfortunately, as Samuel Gompers says of them,

they are not open to conviction. They are zealous fanatics.

"2. The governors and legislatures of certain States tinctured with socialism, especially the western group of States now carried away by the misbranded Non-Partisan movement.

"3. The modern bolshevists who are out for anything that promises to foment class hatred, promote chaos, curb production, destroy prosperity and kill private initiative.

"4. The men in every State who have the nose of a hunting dog for political jobs, and who see the vision of a great organization feeding at the public treasury.

"Thus we find compulsory health insurance with a peculiar assortment of friends. It is at once to be observed that, not the lion and the lamb, but the zealot and the crook, lie down together. Not politics only, but socialistic 'reforms' as well, make strange bedmates.

"In the early days of the movement it was thought that the medical profession was in favor of it. For a time the medical profession, indeed, was in favor of it. But now we find physicians arrayed strongly among the opposition, and we observe them to be well organized in one or two States where the issue has reached the stage of practical danger."

FINES AND FORFEITURES COLLECTED BY THE GOVERNMENT TO PAY COST OF DRY-LAW ENFORCEMENT.

April 14, Senator Morris Sheppard, of Texas, "dry" leader in the Senate, introduced testimony by Wayne B. Wheeler, counsel for the Anti-Saloon League, to refute statements by Senator Francis Warren, of Wyoming, and others, that prohibition enforcement would cost $50,000,000 or more a year.

Mr. Wheeler, in a letter, wrote, that as $3,100,000 had been appropriated by Congress, *there is every reason to believe that fines and forfeitures collected by the government will more than pay the cost of the law enforcements.*

PROPOSED PHARMACY LEGISLATION IN IOWA.

Quoting the *Official Register* of the Iowa Pharmaceutical Association, "the Iowa Code Revision Committee has published two proposed bills affecting pharmacy in Iowa. These two bills, known as Code Commissioners' Bill 63 and 64, cover the subject of 'Public Health and Food and Drug Department' and our present pharmacy laws are included under these subjects.

"The particular bill of interest to us is the one which provides for the administering of the laws as the original pharmacy laws now on our statutes are incorporated in their original form under the head of 'Food and Drug Department.' The only changes proposed to these laws are such as will make them more clearly understood by the addition of definitive paragraphs. While some of these paragraphs may need some revision or amending, our principal concern now is with the proposed method of administration and this article will cover only that subject."

GENERAL BOARD TO REPLACE PRESENT COMMISSIONS.

"All commissions and boards having to do with the administering of laws pertaining to the public health (including the State Board of Pharmacy) are abolished if this bill is enacted. In their places it is proposed to establish one state board to be known as the State Board of Health. This board is to consist of three members, one to be a physician, one a sanitary engineer and one an experienced business man, all to be appointed by the governor and to put in their entire time. The duties of the board are to have general supervision of the public health; make investigations, surveys and inspections; publish and enforce rules and regulations in conformity with the Food and Drug laws; and have supervision of such regulations and laws."

CUBA REQUIRES FORMULA DISCLOSURES OF PREPARATIONS SOLD ON ISLAND.

The Bureau of Insular Affairs states that formula disclosure is not required by Porto Rico on proprietary medicines if the Volstead Act is complied with. Restrictions do apply in Cuba, however, according to information from the Cuban Legation and the Proprietary Association. The latter has sent its counsel, Harry B. Thompson, to Cuba to look into the matter and make efforts to secure an exemption for bona fide remedies of American make.

FIGHT ANTI-DUMPING BILL.

Declaring that the anti-dumping bill recently passed by the House would prevent American consumers from reducing living costs by buying cheaper European wares, Senators Thomas, of Colorado, and Nugent, of Idaho, filed a minority report April 22, urging defeat of the measure. They charged that the moving force behind the bill was the selfish interests of American manufacturers, who desired to hold a monopoly of the domestic market.

Denying that wholesale dumping of foreign goods was probable, the report declared if so it would "prove more of a blessing than a curse. "Indeed most people would welcome such a blessed relief from the exactions of the home market," the report said.

BOOK NOTICES AND REVIEWS.

Handbook der Pharmakognosie (Handbook of Pharmacognosy). By A. Tschirch. In two 4° volumes of pp. 1072 and 1625, respectively, with numerous illustrations in the text and several full-page plates and maps. Published by Chr. Herm. Tauchnitz, Leipsic.

It is now somewhat more than ten years since the first parts of the comprehensive work bearing the above title were issued, and although apparently brought to completion in 1917, owing to conditions caused by the war the final parts have only recently been made available in this country. With consideration of this unfortunate interruption of publication or distribution, it is particularly gratifying to know that so stupendous a task has ultimately been successfully accomplished, and it now seems opportune that a work on which so much time and labor have been bestowed should be brought more generally to notice, in order that it may receive the wider recognition and appreciation which it merits.

It would be quite impossible within the limits of time at the disposition of the writer, or the available space of the JOURNAL, to undertake a comprehensive review of a work of such magnitude, and all that can now be attempted is to present an outline of the general character of the work and some of its principal or distinctive features.

The first volume of the "Handbuch," which comprises 1072 pages, is devoted to general pharmacognosy, and under this title the following subjects are considered: Definition and aims of pharmacognosy; drugs and the history of those employed in medicine; the cultivation and collection of medicinal plants; trade routes in ancient and modern times; treatment of drugs at the port of entry, and the extent of their production and export; commercial sorts and methods of packing; pharmacognostical systems and bibliography; instruction in pharmacognosy; examination of drugs for identity and purity and their preservation; description of drugs; the auxiliary sciences, such as botany, zoölogy, chemistry, physics, geography and history in their application to the study of pharmacognosy.

The second volume of the work relates to what is termed special pharmacognosy, and comprises 1625 pages. In this part detailed descriptions of a very large number of drugs are presented, and in the classification of the latter the author has departed from the usual custom, inasmuch as they are grouped according to what is considered to be their more prominent or important constituent rather than botanical relationships. In other words the plan of classification is based upon the chemical characters of the respective drugs. In accordance with this plan the subject-matter is considered under the following principal chapters with numerous subdivisions: I. Drugs containing carbohydrates; II. Drugs containing albuminoids. III. Drugs containing organic acids. IV. Drugs containing fats and waxes. V. Drugs containing odorous substances, such as the volatile oils or related individual compounds. VI. Drugs containing glucosides, including glucosidal resins. In connection with each subject the author has given very extensive citations of the literature and a comprehensive description of the drug, together with its morphological or anatomical characters and chemical constituents. A special interest is imparted to the work by its richness and excellence of illustration, not only in the text but also by means of many full-page plates and maps.

It may safely be stated that the subject of pharmacognosy has never before received so elaborate an exposition as in the work to which Professor Tschirch has devoted so many years of untiring labor. His long experience in the teaching of this branch of science has rendered him particularly well qualified to undertake the task which has now been so successfully completed, and the "Handbuch" will certainly long continue to be a repository of most valuable and interesting information for all who are interested in the subject of pharmacognosy in its broadest aspects or applications. F. B. POWER.

NEW PUBLICATIONS.

Industrial Chemistry, a manual for the student and the manufacturer, edited by Allen Rogers. 1208 pp. and index. D. Van Nostrand Co. $7.50 net.

The new volume contains 1208 pages, exclusive of the index, as against 980 pages in

the second edition, and many new illustrations have been provided.

The Action of Certain Esters and Ethers of Choline, and their Relation to Muscarine, by H. H. Dale, M.D., F.R.S. Reprinted from the *Journal of Pharmacology and Experimental Therapeutics;* "The Alkaloids of Quebracho Bark. Part I, The Constitution of Aspidospermine," by Arthur James Ewins, D.Sc. Reprinted from the Transactions of the Chemical Society.—*The Welcome Physiological Research Laboratories.*

Practical Physiological Chemistry. For Indian Medical Students and Clinical Assistants. By C. C. Caleb, M.B., M.S., Professor of Physiology, King Edward Medical College, Lahore. Cloth. Price, 6 rupees net. Pp. 252. Calcutta: Butterworth & Co., 1919.

The commonly used analytical methods are described, the relations of chemical findings to diagnosis are briefly explained, and other useful information is given in a condensed form.

The Qualitative Analysis of Medicinal Preparations. By H. C. Fuller, B.S., Chief Analyst, Institute of Industrial Research, Washington, D. C., ix + 132 pp. 5 × 7 1/4. Cloth, net $1.50. Publishers, John Wiley & Sons, Inc.

Summary of Contents—First Portion: Scheme of Analysis. Separation of Substances into Groups. Tables of Reactions of Anaesthetics and Opium Alkaloids. Second Portion: Analysis of Extracts, Tinctures, Elixirs, Emulsions, Tooth Washes, Gargles, Pills, Powders, Effervescent Preparations, Pastes, Ointments, Plasters, Digestives, etc. Scheme of Analysis for Rapid Detection of Inhibited Drugs. Reagents.

An Introduction to Theoretical and Applied Colloid Chemistry. By Professor Wolfgang Ostwald. Authorized translation from the German, by Dr. Martin H. Fischer, Eichberg Professor of Physiology in the University of Cincinnati. xv + 231 pp. 6 × 9. 45 figures. Cloth, net $2.50. Publishers, John Wiley & Sons, Inc.

Contents: Fundamental Properties of the Colloid State. Colloids as Examples of Dispersed Systems. Methods of Preparing Colloid Solutions. Classification of the Colloids. The Physico-Chemical Properties of the Colloids and their Dependence upon the Degree of Dispersion. The Changes in State of Colloids. Scientific and Technical Application of Colloid Chemistry.

Introduction to the Analysis of Drugs and Medicines. An Elementary Handbook for the Beginner. By Burt E. Nelson, Chemist to the New York State Hospitals. xii + 384 pp. 5 × 7 1/4. Illustrated. Cloth, net $3.00. Publishers, John Wiley & Sons, Inc.

Chapters: Introduction. Apparatus and Operations. Ultimate Inorganic Analysis. Ultimate Organic Analysis. Determination of Molecular Weights, Common Radicals, and Chemical Formulæ. Drug Analysis. Assays of Chemicals, Crude Drugs, and Pharmaceutical Preparations. Pharmacological Methods.

PUBLICATIONS RECEIVED.

The Redistillation of Aqueous Distillates Resulting from Production of Volatile Oils. By Emerson R. Miller.

Bulletin of the University of Wisconsin, Pharmaceutical Experiment Station.

On the Identification of Citric Acid in the Tomato. By R. E. Kremers and J. A. Hall. From the Phytochemical Laboratory of Edward Kremers, University of Wisconsin.—Reprinted from *The Journal of Biological Chemistry*, January, 1920.

What Becomes of Salicylates in the Body, including a brief survey of the manufacture and therapeutic uses of salicylic acid, its compounds and derivatives. Published by the Hayden Chemical Works. Contains bibliographical references.

Proceedings of the American Conference of Pharmaceutical Faculties, twentieth annual meeting, New York, August 25–26, 1919. Contains an excellent half-tone of Prof. James Michener Good, deceased, May 15, 1919, and a sketch by Dr. Henry M. Whelpley.

State "Pure Drug" Laws Enacted Since the Passage of the National Food and Drugs Act, June 30, 1906, with a compilation of food and drugs acts of the various states and also of narcotic laws, prohibition laws, pharmacy laws, weight and measure laws, advertising laws, insecticide and fungicide laws, sample distribution laws, stock medicine laws, and other laws relating to the drug trade, including acts of all legislatures to December 31, 1919. Compiled by the Proprietary Association and the National Wholesale Druggists Association. Printed in February 1920. The publishers render a valuable service by the compilation of the laws relating to the drug trade. The volume of about 700 pages presents a useful reference for legislators and legislative committees, as well as for those engaged in the lines regulated by the laws.